THE SCIENTIFIC AMERICAN.

THE ADVOCATE OF INDUSTRY AND ENTERPRISE, AND JOURNAL OF MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME I.] NEW-YORK, THURSDAY, FEBRUARY 5, 1846. [NUMBER 21.]

THE SCIENTIFIC AMERICAN,
PUBLISHED EVERY THURSDAY MORNING, AT THE
SUN BUILDINGS,
—Entrance 128 Fulton st., and 89 Nassau st.—
ALSO, AT NO. 12 STATE ST., BOSTON, AND NO. 29 ARCADE, PHILADELPHIA.
(The Principal Office being at New York,)

By RUFUS PORTER.

Each number of this paper is furnished with from two to five ORIGINAL ENGRAVINGS, many of them elegant, and illustrative of NEW INVENTIONS, SCIENTIFIC PRINCIPLES, and CURIOSITIES; and contains as much Interesting Intelligence as six ordinary daily papers, consisting of notices of the progress of Mechanical and other Scientific Improvements,—American and Foreign Inventions; Catalogues of American Patents,—Scientific Essays, illustrative of the principles of the Sciences of MECHANICS, CHEMISTRY, and ARCHITECTURE;—Instruction in various Arts and Trades;—Curious Philosophical Experiments;—Miscellaneous Intelligence, Poetry and, occasionally, Music.

TERMS.—"The Scientific American" will be furnished to subscribers at $2, per annum,—one dollar in advance, and the balance in six months.

Five copies will be sent to one address six months, for four dollars in advance.

Any person procuring four or more subscribers, will be entitled to a commission of twenty-five cents each.

TERMS OF ADVERTISING.—For 10 lines, or less, 50 cents for the first, and 12 1-2 cents for every subsequent insertion.

From the Greensboro' (N.C.) Patriot.

"I'll See you in the Morning."

What is it smites the wretch's ear.
Like notes of solemn warning,
While pleading at the miser's gate?—
"I'll see you in the morning!"

The youth, compell'd to wander from
The hut that he was born in,
From man oft meets the cold response,
"I'll see you in the mornin'!"

Depending on some FRIEND to save
You from the cold world's scorning
When trouble comes,—he coolly turns—
"I'll see you in the morning!"

The cashless loafer strolls around,
And turns to take a horn in
The groc'ry;—drinks, and bows, and grins—
"I'll see in the mornin'!"

And yonder stands the vain coquette,
Her person fair adorning;
She courtsies to her silly swain—
"I'll see you in the morning!"

The man you owe "that trifle" to
Just stops to give you warning;
You twist, and turn, and stammer out,
"I'll see you in the morning!"

An Irish Letter.

Dear Jim I am now after writing a letther,
As perhaps by this same you'll be able to see—
And as for ourselves we are well—if not betther,
If you are as well when this find's you from me.

I send my old rusty brown coat by the bearer,
From which you may make a new one for yourself,
And your mother—oh! long may the saints above spare
Encloses five pounds, *unbeknown* to myself. [her.

Now lay it all out, not for show, but for use,
Deposit the rest in some one of the banks,
f you don't let me tell you my boy, you're a goose,
Good counsel costs nothing, so spare me your thanks.

You're old blind grandaddy has got a new shanty,
From which he can have a fine view of the Liffey;
I've no room to request you would write to your aunty—
So that in my next—the mails off in a jiffy.

The Faults of Man.

BY A LADY.

A thousand faults in man we find—
Merit in him we seldom meet;
Man's inconsistent and unkind;
Man is false and indiscreet;

Man is capricious, jealous, free,
Vain, insincere and trifling, too;
Yet still the women all agree
For want of better—*he must do!*

WESTERN GENIUS.—A Hoosier lover of *fourteen* vents his disappointed hopes in the following poetic effusion:

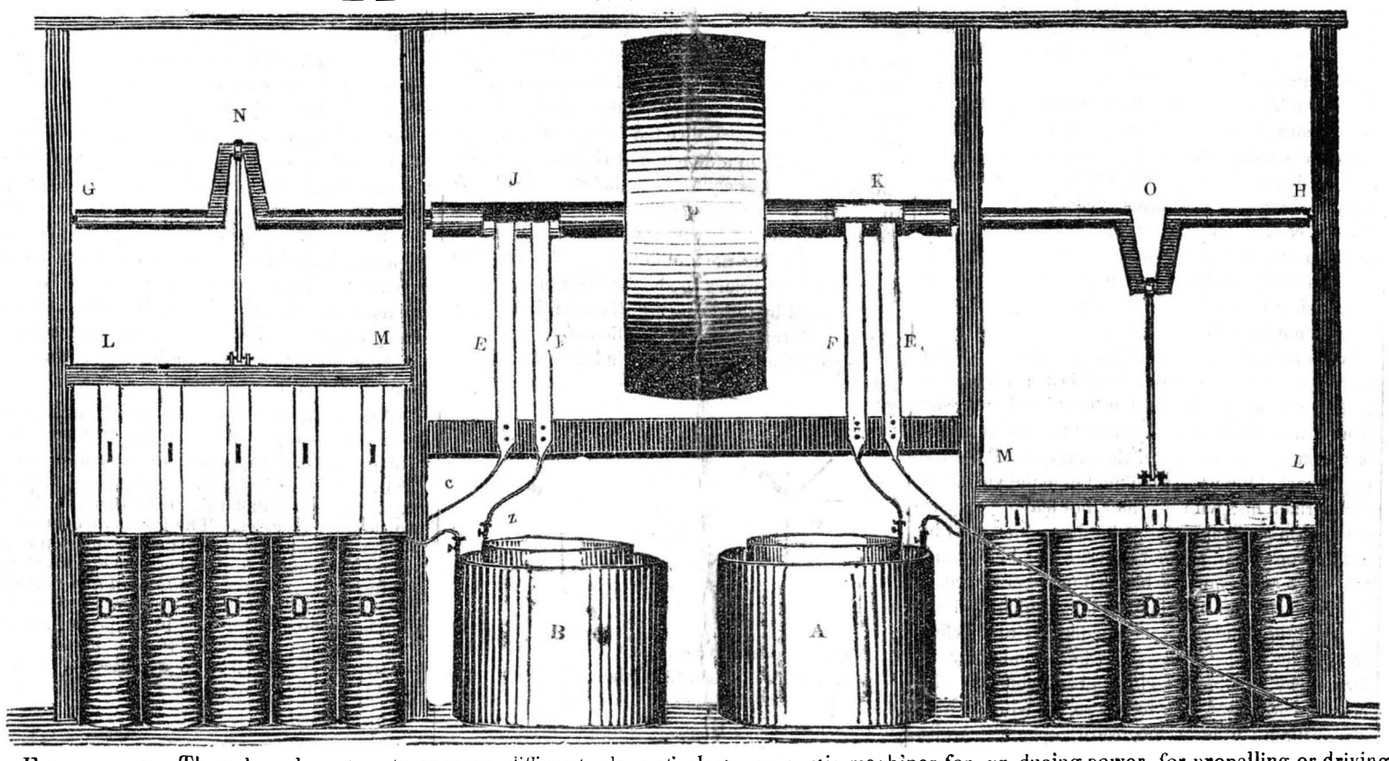
Oh, Cupid, Cupid, don't you know
You ought to have a lickin',
For plaguing little children so—
Your arrows in 'em stickin'.

You ought to fire at bigger game,—
Old bachelors of forty;
Oh! leave the babies! fie! for shame!
You know you hadn't orty.

Farewell, dear girl, farewell, farewell,
I ne'er shall love another,
In peace and comfort you may dwell,
And I'll go home to mother.

ADVANTAGES OF CONVERSATION.—Conversation calls out into light what has been lodged in all the recesses and secret chambers of the soul. By occasional hints and incidents, it brings old useful notions into remembrance; it unfolds and displays the hidden treasurers of knowledge with which reading, observation and study, have before furnished the mind. By mutual discourse, the soul is awakened and allured to bring forth its hoards of knowledge, and it learns how to render them most useful to mankind. A man of vast reading, without conversation, is like a miser who lives only for himself.

ELECTRO-MAGNETIC ENGINE.



EXPLANATION.—There have been twenty or more different plans of electro-magnetic machines for producing power for propelling or driving other machinery; but results as well as advanced theoretic knowledge of the subject satisfactorily prove that no other arrangement will produce so much working power in proportion to the expense of electric fluid emptoyed, as the one here presented. It has been explained in former numbers, that a hollow helix, while a current of galvanic fluid is passing through it, exerts a powerful attraction on a simple bar magnet, the end of which is inserted within the helix. In this engraving, two large circular batteries A, B, are represented with wires, C, Z, connected to the copper and zinc cylindrical plates thereof. Each positive wire—that connected to the copper of the battery—extends through a series of helices, D, D, and both wires terminate in the vertical springs, E, F, These springs are made of hammered copper, are supported by a beam or cross-bar of wood, and the upper end of each, presses slightly upon the side of the horizontal shaft, G, H. One half of the circumference of those sections of the shaft, J, K, to which the springs apply, is covered with silver plate, while the other half is coated with shellac, or with a plate of horn, so that a metallic connection is formed between the springs, and consequently between the two poles of the battery, during one half of the revolution of the shaft. A series of round bar-magnets, I, I, are attached to a cross-head, L, M, and from the centre of this cross-head, a connecting rod extends to the crank, N, O. The drum-wheel, P, is intended to serve as a fly wheel, and to communicate the power of the machine to other machinery by means of a belt. Thus it will be seen that when the wheel and shaft are in motion, and have arrived at the position in which they are represented, a metallic connection of the circuit is formed by the silver plate, J, coming in contact with one pair of springs, and that consequently the crank, N, will be forcibly drawn down by the force of attraction between the helices and the magnets of one series, while the other set of magnets will be drawn up by the crank, O, without resistance; but when another half revolution is accomplished, the plate J, leaves its respective springs disconnected, while the other springs are at the same time connected by the plate, K, and their respective magnets are in turn forcibly drawn into the helices. In this way a continuous and rapid motion may be kept up, and a sufficient power produced for driving small lathes or other light machinery, at a very inconsiderable expense.

DEPTH OF SENECA LAKE.—A party last fall took soundings of this Lake about two miles north of Big Stream Point, commencing nearly one-third of the distance across the Lake from the west shore, where they found the depth 46 feet—half way across 553 feet, which did not vary six inches in going two miles south. Could the water be drained from that great valley, what a frightful abyss it would present!

As the bottom of this Lake is lower than the surface of the ocean, as is proved by the lockages on the Erie canal, many have supposed from indications of salt water at the head of the Lake, that it might be found at the bottom. To test this, a strong empty bottle was firmly secured to the line, being stopped with a cork, so large as to be forced only perhaps one quarter of its length into the bottle. On letting it down 150 feet, the cork was forced into the bottle. This was repeated several times with the same result.

Wooden stoppers were now substituted for the corks. One of dry white pine was accurately fitted to the mouth of the bottle, with a shoulder so made as to prevent the possibility of its being forced in, was tried.

After remaining some five minutes at the depth of 150 feet, it was drawn up; and no water found in the bottle. It was then sent to the bottom, and after five minutes, drawn up; the stopper was in its place, and the bottle was about two thirds full; but on letting it remain at the bottom eight minutes, it would be found when drawn up to be full; which was repeated many times during the day. The water was fresh, pure and very cold; and forced, doubtless into the bottle through the stopper.

A NEW CLOTH.—An imperishable cloth as it is called, has been invented in England, and presented and described at a late meeting of the Royal Institution. It is made of hemp and woof, the woof of the one and the waft of the other; or of the mixed materials, flax and cotton for the one, and silk and flax for the other. But the invention consists in the saturation of the tissues before weaving. The fibres are saturated with boiling linseed oil, raw white lead, powdered charcoal, litharge and common salt. They are then worked in this saturated state at the uniform temperature of from 50 to 60 degrees Fahrenheit. The fabric is then pressed through rollers for the purpose of hardening and flattening the surface of the coarser material, and it is afterwards dried in the open air. It is said this cloth is not liable to injury from heat, rot, or mildew, and it is capable of being made air-tight.

QUALIFICATIONS OF AN EDITOR.—He must possess the constitution of a horse, obstinacy of a mule, independence of a wood sawyer, endurance of a starving anaconda, impudence of a beggar, spunk of a chicken cock, pertinacity of a dun, imperturable good temper, a faculty of doing nine things at once, skill to read the most illegible manuscripts, leisure at all times, and a great knack of going without his dinner while waiting upon the irregularities of the mail.—*N. Y. Com. Adv.*

THE MOON.—The Moon, as it makes its monthly circuit round the earth, continually turns to us the same hemisphere—we never see the other half. Of course she revolves upon her axis exactly in the same time that she takes to complete her revolution round our earth, viz; 27 days and 8 hours, &c. Her days and nights are consequently each 13 days and 10 hours of our measure. When the moon is between us and the sun, her dark side is of course presented to us, and she is invisible. When we are between her and the sun, we have full moon; and her *phases* are occasioned by unequal proportions of the bright surface which we see, as it gradually approaches or recedes from the position in her orbit. When the sun, earth and moon are in a straight line, an eclipse occurs. This would always occur to the moon at its full, and to the sun at every new moon, if the orbits of the earth and moon were coincident, which is not the case. The inclination is a little over 5 degrees. Our satellite is 2,000 miles, in diameter, or about 6,000 miles in circumference. A correct idea of the effect of great distance upon the apparent size of great objects may be obtained by remembering that the distance of the moon from us is about 240,000 miles, and the extent of the hemisphere we see, from side to side, is about 3,150 miles.

AN AMERICAN INVENTION ABROAD.—Many of our readers probably know of the existence of an improved plan of docking vessels for repairs, called the Balance Floating Dry Dock, invented by our own fellow citizen, Mr. John S. Gilbert, of this city. The first Dry Dock on this plan, a small wooden one, was constructed about five years ago; within which period it has, in so high a degree, attracted the notice and favor of Foreign Naval Engineers, and Governments, that a number of large docks, planned from its model, have been constructed at various places. Two have been built at Amsterdam, one at Havre, one at Marseilles, one at New Orleans, one at Charleston, S. C.; and the Governments of Holland, France, Sardinia and Brazil, have investigated it through able commissioners, in whose unanimously favorable reports they have all either commenced the construction of these docks for the use of the navy, or are about doing so. The Dutch ministry of Marine have even declared a decided preference for it over the old method of excavated stone docks.

TO MAKE WOOD INCOMBUSTIBLE.—Take a quantity of water, proportioned to the surface of wood you may wish to cover, and add to it as much potash as can be dissolved therein. When the water will dissolve no more potash, stir into the solution, first, a quantity of flour paste of the consistency of common painters size; second, sufficient quantity of pure clay to render it of the consistency of the cream. When the clay is well mixed, apply the preparations as heretofore directed to the wood; it will secure it from the action of both fire and rain. In a most violent fire wood thus saturated may be ed, but it will never blaze.

A REMARKABLE MAN.—At a temperance meeting held not long ago in Alabama, Col. Lemanousky, who had been twenty-three years a soldier in the armies of Napoleon Bonaparte, addressed the meeting. He arose before the audience, tall, erect, and vigorous, with a glow of health upon his cheek, and said:

"You see before you a man 70 years old. I have fought 200 battles, have 14 wounds on my body, have lived 30 days on horse flesh, with the bark of trees for my bread, snow and ice for my drink, the canopy of heaven for my covering, without stockings or shoes on my feet, and only a few rags for my clothing! In the desert of Egypt I have marched for days with a burning sun upon my naked head feet blistered in the scorching sand, and with eyes, nostrils, and mouth filled with dust, and with a thirst so tormenting that I have opened the veins of my arms and sucked my own blood! Do you ask how I could survive all these horrors? I answer that under the providence of God, I owe my preservation, my health and vigor to this fact, that I never drank a drop of spirituous liquor in my life, and," continued he, "Baron Larry, chief of the medical staff of the French army, has stated it as a fact, that the 6000 survivors who safely returned from Egypt, were all of them men who abstained from the use of ardent spirits."

ALL FOR THE BEST.—Father Hodge was a queer man, and in his own way made everything a subject of rejoicing.

His son Ben, came in one day and said. "Father, that old black sheep has got two lambs."

"Good," says the old man "that's the most profitable sheep on the farm."

"But one of 'em's dead," returned Ben.

"I'm glad on't," says the father, "it will be better for the old sheep."

"But the tother's dead, too," says Ben.

"So much the better," rejoined Hodge, "she'll make a grand piece of mutton in the fall."

"Yes, but the old sheep's dead too," exclaims Ben.

"Dead! dead! what, the old sheep's dead?" cried old Hodge, "that's good! darn her, she was always an ugly old scamp."

THE ANGEL INN.—An old and popular tavern was kept many years in England by two sisters named Christine and Grace Richards. The sign at the door represented an angel, and the house was known as the angel Inn. In process of time the eldest sister died, and the younger, who was very beautiful, was persuaded to go off in company with a nobleman by name of Frederick. The house was deserted, the sign was destroyed, and anon there appeared posted on the front door a piece of quaint doggerel as follows:

Christine and Grace lived in this place,
An angel kept the door;—
Christine is dead—the angel's fled,
And Grace has turn'd a—"Lady Fred,"
And will be here no more.

PATENT LAWS.

(Continued from No. 20.)

SEC. 7.—(*Continued.*)—And on an examination and consideration of the matter by such board, it shall be in their power, or of a majority of them, to reverse the decision, of the Commissioner, either in whole or in part; and their opinion being certified to the commissioner, he shall be governed thereby in the further proceedings to be had on such application; *Provided, however*, that, before a board shall be instituted in any such case, the applicant shall pay to the credit of the Treasury, as provided in the ninth section of this act, the sum of twenty-five dollars; and each of said persons so appointed shall be entitled receive, for his services in each case, a sum not exceeding ten dollars, to be determined and paid by the Commissioner, out of any moneys in his hands, which, shall be in full compensation to the persons who may be so appointed, for their examination and certificate as aforesaid.

SEC. 8 That whenever an application shall be made for a patent, which, in the opinon of the Commissioner, would interfere with any other patent for which an application may be pending, or with any unexpired patent which shall have been granted, it shall be the duty of the Commissioner to give notice therof to such applicants. or patentees, as the case may be; and if either shall be dissatisfied with the decision of the Commissioner on the question of priority of right or invention, on a hearing thereof, he may appeal from such decision, on the like terms and conditions as are provided in the preceding section of this act, and the like proceedings shall be had to determine which or whether either of the applicants is entitled to receive a patent as prayed for. But nothing in this act contained shall be construed to deprive an original and true inventor of the right to a patent for his invention, by reason of his having previously taken out letters patent thereof in a foreign country, and the same having been published at any time within six months next preceeding the filing of his specifications and drawings. And whenever the applicant shall request it, the patent shall take date from the time of filing of the specifications and drawings, not, however, exceeding six months prior to the actual issuing of the patent; and on like request, and the payment of the duty herein required, by any applicant, his specification and drawings shall be filed in the secret archives of the office, until he shall furnish the model, and the patent be issued, not exceeding the term of one year—the applicant being entitled to notice of interfering applications.

Sec. 9. That, before any application for a patent shall be considered by the Commissioner as aforesaid, the applicant shall pay into the Treasury of the United States, or into the Patent Office, or into any of the deposite banks, to the credit of the Treasury, if he be a citizen in the United States, or an alien, and shall have resided in the United States for one year next preceding, and shall have made oath of his intention to become a citizen thereof, the sum of thirty dollars; if a subject of the King of Great Britian, the sum of five hundred dollars; and all other persons the sum of three hundred dollars; for which payment duplicate receipts shall be taken, one of which to be filed in the office of the Treasurer. And the moneys received into the Treasury under this act shall constitute a fund for the payment of the salaries of the officers and clerks herein provided for, and all other expenses of the Patent Office, and to be called the Patent Fund.

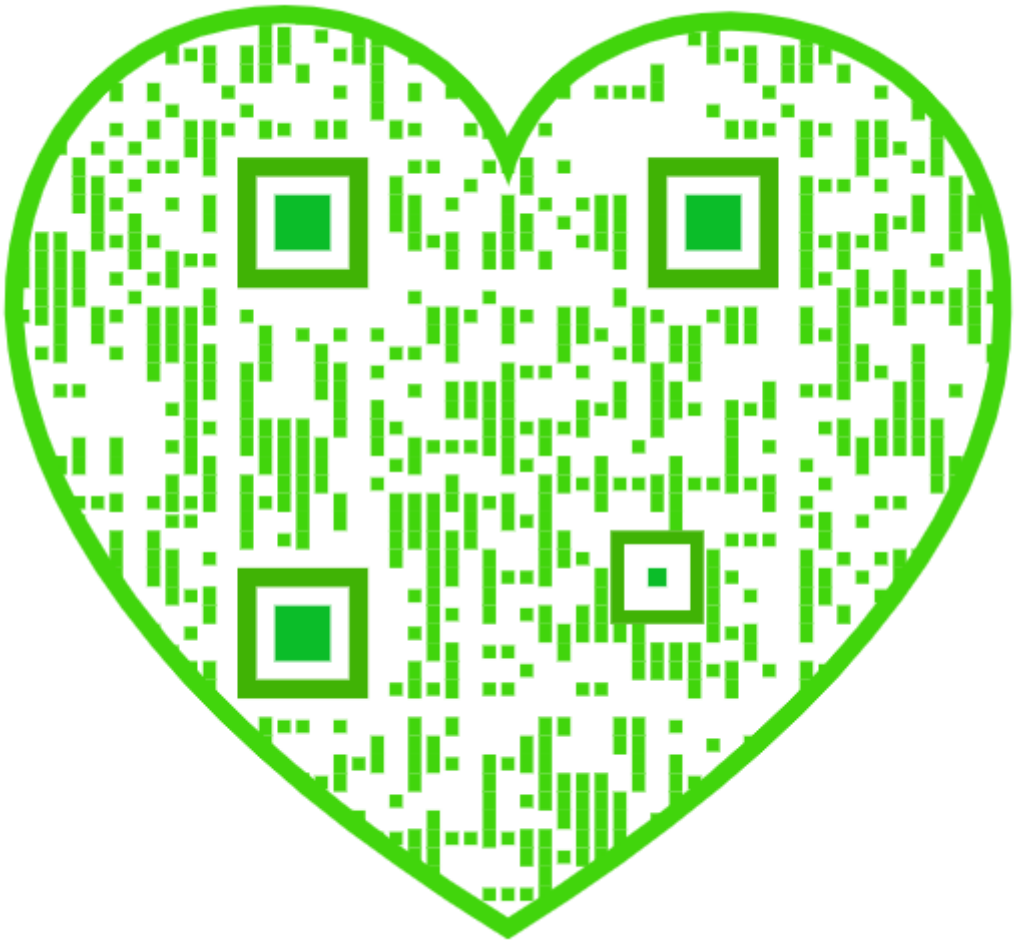
SEC. 10. That where any person hath made, or shall have made, any new invention, discovery, or improvement, on account of which a patent might by virtue of this act be granted, and such person shall die before any patent shall be granted therefor the right of applying for and obtaining such patent shall devolve on the executor or administrator of such person, in trust for the heirs-at-law of the deceased, in case he shall have died intestate; but if otherwise, then in trust for his devisees, in as full and ample manner, and under the same conditions, limitations and restrictions, as the same was held, or might have been claimed or enjoyed by such person in his or her lifetime; and when application for a patent shall be made by such legal representatives, the oath of affirmation provided in the 6th section of this act shall be so varied as to be applicable to them.

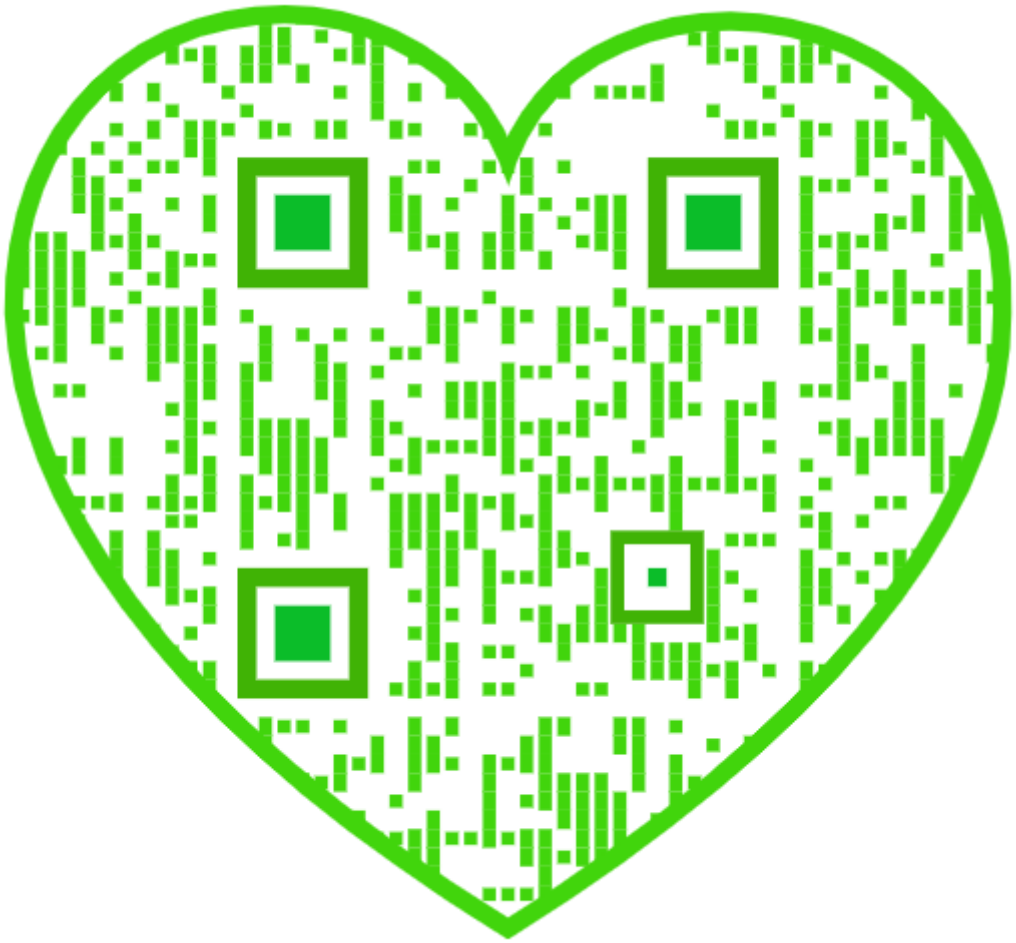
SEC. 11. That every patent shall be assignable in law, either as to the whole interest or any undivided part thereof, by any instrument in writing; which assignment, and also every grant and conveyance of the exclusive right under any patent, to make and use, and to grant to others to make and use, the thing patented within and throughout any specified part or portion of the United States, shall be recorded in the Patent Office within three months from the execution thereof, for which the assignee or grantee shall pay to the Commissioner the sum of three dollars.

(To be continued.)

A POUND OF COTTON.—There was sent off from London, says a foreign journal, lately from Glasgow, a small piece of muslin, about one pound weight, the history of which is as follows:—"The cotton came from the United States to London. From London it went to Manchester, where it was made into yarn. From Manchester it was sent to Paisely, where it was woven. It went then to Ayrshire, where it was tamboured. After this it was conveyed to Dunbarton, where it was hand-seeded, and again returned to Paisely, from whence it was sent to Kerfew, a distant part of the country, to be bleached; and then it was again returned to Paisely, and afterwards returned to London by coach." It is calculated that this article was two years in getting to market from the time it was packed in this country till the cloth arrived at the Merchant's warehouse in London, and that it travelled 3,000 miles by sea and 920 miles by land; and also that it contributed to the support of no less than 150 persons who were necessarily engaged in the carriage and manufacture of this small quantity of cotton, by which its value was increased two thousand per cent! Thus it is wit[illegible] cotton trade.

© 1846 SCIENTIFIC AMERICAN, INC.





SCIENTIFIC AMERICAN

NEW-YORK, THURSDAY, FEBRUARY 5.

To Correspondents.—We have several communications on hand, which require attention, but so much of our time has of late been occupied in examining new inventions, aiding in procuring patents, and answering correspondence, that we have not had sufficient time to attend to them. They will receive attention next week.

Number 5 Wanted.—Any person having number 5 of this paper, may receive 8 cents per copy, (double the original price,) by sending it to this office. 30 or more copies are wanted.

Agents Wanted.—Many travelling and local agents are wanted, to introduce and extend the circulation of this paper, in every principal village in the United States.

American Mechanics.

So much has been said and written in commendation of the industry, genius, enterprise and general character of the mechanics of this country, that it appears hardly possible to say anything new on the subject. Certainly nothing better or more flattering can be said than has been said already. Mechanics are truly the producers, and may be said to be the *first* producers in the world; for nothing can be done in agriculture, without the aid of mechanics in preparing implements therefor. They are the "palace builders" of the world, in the most extensive sense; there could be no such things as thrones or crowns in the world. without the aid of mechanics. "Not a stick is hewn nor a stone shapened in all the dwellings of the rich, that does not owe its fitness and beauty to the mechanic's skill." The towering spires, the permanent arched bridges, the majestic ship, the swift gliding and elegently furnished steamer, and the swifter flying locomotive, with its gaily following train of gay saloons, are all indebted for their beauty, symmetry and utility to the wonderworking wisdom and power of mechanics. It has been truly remarked, (by R. C. Winthrop,) that "the truly famous, the real beuefactors of the earth are the great inventors, the mechanics." If there is any situation in life truly honorable it is that of an industrioas mechanic, who, by his own exertion, has established a respectable place in society; who has by his industry and perserverance, overcome every obstacle, and built for himself a reputation, more permanent than that of the wealthy banker, or the military hero. He fills an honest place in society, and nothing is more disgusting to well bred and well informed people, than to hear the sneering remark from a starched up, brainless dandy, concerning one who is in every respect his superior, that "he is nothing but a mechanic." As one writer has remarked, "show us the man who would consider it a disgrace to associate with honest, well informed mechanics, and we will show you a worthless ignorant creature, useless to himself and the world, and a disgrace to society." It is time for Republican America to cast off the fetters of prejudice forged by the aristocracy of the old world, and act according to rational principles of her peculiar interest. The scientific, industrious mechanic may be ranked among her firmest supporters, and placed in his proper station in the scale of society.

Our Exchange List.—We almost daily receive papers with "Please Ex" on the margin, and we would gladly exchange with all if we could afford it; but our exchange papers already received—near 200—are twice as many as we can find time to examine, and we feel constrained to reduce the number from the present week; carefully reserving, however, those whose editors have already laid us under peculiar obligations. These, therefore, who may receive this number with a ⋈ on the margin, will please excuse us.

The Scientific American—be it remembered, is the title of this paper. Too many of the favors of our correspondents, and our exchanges, are directed to the "Mechanic," "N. Y. Mechanic," or "Scientific Mechanic," in consequence of which they are in danger of being sent to the office of another paper, published under the title of "The New York Farmer and Mechanic." That excellent paper, the Knickerbocker of Albany has generally taken a wrong direction lately, in consequence of a wrong direction on the wrapper. We regret this, for we would rather miss several other papers than one of this lively daily.

A New, Curious and Valuable Book.—We would particularly recommend the attention of our readers, to the various notices in another column, of the History of Silk, Cotton, Linen and Wool, with the ancient mode of manufacturing, &c. We have examined the work, and can recommend it to be quite equal to the most favorable representations thereof, and well worthy of a place in every genteel library in this country. The illustrations are elegant, and the form and arrangement of the intelligence are so peculiar and unique, that no mere descriptive notice thereof, can do ample justice to the subject. Published by Harpers: price, $3.

Gold Dollars.—The subject of issuing gold dollars from the U. S. mint, has been introduced in Congress, and there appears little doubt that a bill for this purpose will be passed during the present session. They will be a trifle smaller than our ten cent pieces—will be very convenient for remittance by mail, and, if we can have them sufficiently plenty, will answer very well for small change.

Carrier Pigions.—Two carrier pigeons were let off from Boston, on the arrival of the Hibernia on Friday week, with despatches for New-York; but the storm prevailing, they were compelled to put back and wait for more favorable weather.

The Art of Painting.

(Continued from No. 20.)

Landscape Painting on Walls of Rooms.—This kind of painting having been thoroughly proved to be cheaper and more durable as well as more elegant than paper hangings, there appears no other good reason than the want of competent artists to execute such work, to prevent its coming into general use, in preference. A convenient apparatus for this branch is easily obtained, and the expense thereof comparatively trifling. About twenty different colors, most of them in small quantities, the same number of small tin cups, and a dozen common paint brushes of different sizes, constitute the principal requisite preparation. There are a variety of compound colors required in the process, which will be described progressively. The first part of the process, after having prepared the colors as directed in our last number, is to examine the walls, and fill up all the cracks and holes with a putty made of whiting (Spanish white) mixed with glue sizing. This is best performed with a piece of wood in the form of a chisel, an inch or more in width. Then draw a line with a lead pencil, or flat piece of lead, round the room, on a line with the bottom of the windows, and another about five feet from the floor, if the room is high; otherwise this line may be lower: the first is termed the dadoe line, and the latter, the horizon line; it being intended to represent the height at which the surface of the ocean would appear, if represented in the painting. The observation of this line is very important, as it serves as a guide in locating the distances, and various objects therein. Make a *sky-blue* by adding celestial blue to whiting till the color appears about two shades deeper than it is intended when dry. Also make a *horizon red* by mixing together ten parts in bulk of whiting with two of orange red and one of chrome yellow. Then make a *cloud color*, by mixing an indefinite small quantity of horizon red with whiting. (Every compound color should be mixed before being diluted with the glue sizing.) The sky-blue may be applied by a large common paint brush, either new or worn; but a brush for the application of the cloud color should be large and short. A half-worn brush is best, but if this can not be obtained, a new brush may be wound with twine so as to reduce the length of the brush part, and will answer the purpose. Paint the upper part of the walls, from the top to the vicinity of the horizon line with sky blue, but leaving a space from six to ten inches above that line, which must be at the same time painted with the cloud color, and these two colors must be blended together by brushing vertically till the cloud color gradually disappears in the blue. Also immediately, and before the blue is dry, a variety of rising clouds may be formed by striking the cloud brush, charged with cloud color, endwise, or nearly so, but with the handle inclining a little downward, upon the walls, forming such curves and pillar forms as rising clouds present. Floating clouds may be also represented high upon the walls, by a similar process, and painting the lower edges of the clouds with a light *slate color* (a mixture of black, slip blue and white) slightly tinged with venitian red, or rose pink. We shall present an engraving, in illustration of this subject in our next.

To be continued.

Galvanism.

[The continuation of the series on this subject will be suspended from the inside columns for a few weeks, on account of a succession of prominent artists on the same subject on our first page.]

How about those Bees.—It was confidently predicted last Autumn, and the prediction was extensively endorsed by newspaper editors throughout the country, that we should assuredly have a severe winter, because the bees in many places had neglected to swarm, according to the custom of their ancestors; but the weather thus far has refused to fulfil the prediction, but on the contrary has been mild as April. We are inclined to doubt that the bees know anything about the winter.

The Carbondale Coal Mines.—So extensive are these mines, that 35 miles of railroad have been laid in them under ground, besides a large extent of carriage roads. A portion of the roof of these mines, three quarters of a mile long and half a mile wide, fell in with a tremendous crash, a few days since, burying and crushing fourteen of the miners. The rush of air occasioned by the descent of the earth, was such as to force out a train of cars to a considerable distance.

Improvement in Splitting Saws.—A very great improvement may be made in the common hand splitting saws, by commencing the teeth at the front of the saw rather small, and increasing the size of the teeth gradually as they approach the handle, at which end they may be nearly twice the size of common sized teeth. If saw manufacturers would consider and adopt this method, they would no doubt confer a great favor on carpenters, if no other class of mechanics.

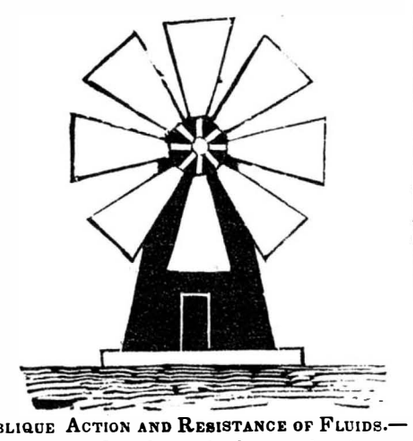
Ball of Fire.—In hastily glancing over the columns of one of our exchanges, one of articles, which was slightly passed over, left a sensation of something like "a ball of fire," but on returning to examine more closely, we found it to be a notice of the "*Ball of Fire*-Company No. 27, to be held at —— Hall, on the evening of, &c.

Important Discovery.—It is stated in the Providence Transcript that a new substance has been recently discovered, possessing many of the properties of india rubber, but in some respects quite dissimilar to it. In this substance the native gum is chemically combined with certain minerals. The product is superior in elasticity to the common rubber; is not affected by cold; and is insoluble by heat or any of the oils.

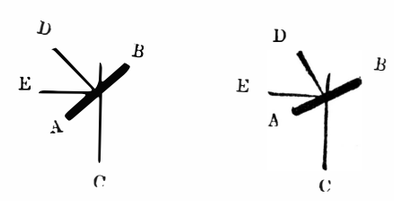
The Philadelphia Ladies—Eleven thousand of the ladies of Philadelphia have petitioned the Legislature that the question of granting tavern licenses may be left to a vote of the people of their several districts.

Science of Mechanics.

(Continued from No. 20.)



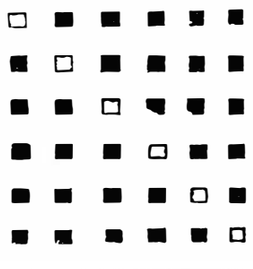
Oblique Action and Resistance of Fluids.—We have heretofore shown the force and resistance of fluids to plain surfaces, presented at right angles, with the direction of motion; but very different results are derived from presenting oblique surfaces to currents of fluids, or applying such to fluids at rest. The first is illustrated by the action of wind on the sails of a vertical-wind-wheel; or on the sails of a vessel, when the direction of the vessel is at right angles with that of the wind. The other is exemplified in the motion of the blade of a sculling oar, and recently, more fully by the "Ericsson Propellers," the spiral float wheels by which the Great Britain is propelled. We shall first examine the relative effect of wind on the sails of a wind-wheel. If the position of the sail is an angle of 45 degrees with the direction of the wind, and the wheel remains at rest, then the force exerted by the wind on the sail, in a direction at right angles with that of the wind, is equal to one half,—or 7-10 of 7-10, of what its force would be on an equal surface placed at right angles with its direction. The reasons are, first, that the sail in that position presents only 7-10 of its surface, to the direction of the wind as illustrated by the following diagram fig. 1st., in which A, B, represents the position of the sail, and C, the point from which the wind is supposed to blow.



Now it appears evident that to an eye placed at C, only 7-10 of the breath of the sail will be apparent. In this case the direct tendency of the sail is in the direction of D, and the utmost that could be expected is, that its tendency in that direction, should be equal to 7-10 of the pressure of the wind on an equal surface at right angles; yet the sail, when in motion, must move in the direction of E; and as only 7-10 of the breadth of the sail, is presented to this direction, its impulse on this direction is again reduced to 7-10 of that in the direction of D, or less than one half of the full pressure of the wind on an equal surface. Now if we suppose the velocity of the wind to be ten feet per second, and the motion of the sail to be also ten feet per second, then the wind effects no pressure, and has no influence whatever on the sail. But if the position of the sail be at an angle of 22 degrees with the direction of the motion as represented at A, B, fig. 2, then the pressure of the wind on the sail per square foot, will be one fourth of what it would be, were the sail at rest, but the sail, it will be observed, presents but 3-10 of its full surface to the direction of E. Hence it is evident that the actual impulse imparted to the sail in that direction, and with that motion is bnt 3-10 of 1-4; or about 1-12 of the full force of the wind, on an equal stationary surface.

A similar calculation will also apply with regard to the relative propelling power of the screw, or spiral propelling-wheels. If the position of the oblique float, paddle or blade, be at an angle of 45 with the direction of the vessel; if the velocity of the vessel be six feet per second, and that of the blades, rotarily be six feet per second, then the blades will apply no power to the water, nor impulse to the vessel. But if the position of the blades be an angle of 22 with the direction of the vessel, then under the same velocities, the impulse imparted to the vessel by the re-action of the water on the blades, will be about equal to 1-12 of the power of the engine applied to the propellers. We have never entertained the least doubt of the utility of the Ericsson Propellers, when applied to merchant vessels, and where no great speed is required; the power and impulse applied by them, being more uniform in a rough sea than those of paddle wheels. They are moreover out of the way, and less inconvenient. But with regard to economy in the power applied, the results cannot by theory, be estimated at more than one third of those derived from the common paddle wheels.

Answer to the Orchard Problem.—We have received several answers to this problem or "Slight Puzzle," which was presented in our last number. The first correct answer was by G. L. Driggs.—Those also of Wm. Gurdon, J. Tompkins, of Providence, and J. T. S., Unionville, are correct. We have several other answers, which are erroneous; the terms of the problem having been evidently misunderstood. The following diagram presents the anwer correctly:—



Humbuggery.

We have heretofore alluded to a paper published in Philadelphia, and *more than one* in New York, which pretend to enlighten their readers with much mechanical and scientific intelligence, but without evincing scientific ability sufficient to discriminate between genuine intelligence, and the most ridiculous humbugs that chance to emanate from brainless writers. From one of the latter, we take the liberty of selecting the following extracts:—

"A new cotton press has recently been invented in Mississippi, which is said to be superior to any hitherto in use. Without the aid of horse power, the hand employed in filling the boxes can press two bales at once in less time than one could be pressed by the ordinary presses. Its cost is much less than the common presses, with single or double screws. A patent is about to be secured for it."

"Hunt's Combined Steering Apparatus lately introduced into steamboats in England, enables the boat, it is said, to be turned completely round within her own length; it also propels boats with the greatest rapidity."

Perhaps the duped patrons of the paper, whose editor penned these wonderful items of news, will feel themselves much enlightened, in being informed that one man can apply more power to a cotton press than two horses, and that a steamboat may be wheeled about by the helm without any headway: while no description of the principles or machinery is given whereby the reader can fully detect and expose the ignorance of the writer. Another article informs us that "a new railroad-break has lately been invented, by which, it is said, every carriage of a whole train may be easily and almost instantaneously stopped. It will soom come into notice, and if eqaal to the representation, will prove of incalculable advantage." This appears somewhat more reasonable, and we might have given a full description of this invention some weeks since; but we still think it provoking, if not ridiculous, for one to give such vacant notices of new inventions, without being able to explain any of their principles. We have in charge a model of this invention, and shall soon procure and present an engraving of it. We add one more extract from the paper above mentioned, simply remarking that we had never learned that to preserve eggs for a *reasonable* time, required any process whatever.

"A pint of lime and the same of salt, mixed with a pail of water, will preserve eggs for a reasonable time."

In another city paper we find the following:

"Brass ornaments, when not gilt or lacquered, may be cleansed, and a fine color given to them by two simple processes. The first is to beat sal ammoniac into a fine powder, then to moisten it with salt water, rubbing it on the ornaments, which must be afterwards rubbed *dry with bran and whiting*.—The second is to wash the brass work with roche alum boiled to a strong lye, in the proportion of an ounce to a pint; when dry it must be rubbed with fine tripoli Either of these processes will give to brass the brilliancy of gold."

This reminds us of Dr. Sage's recipe for destroying bedbugs, which was to wrap a mouse's left ear in a leaf of clover and place the same under one of the bed-posts: then wash all the cords, holes, and crevices about the bedstead with boiling water, frequently repeating the process, &c. The fact is, the rubbing with tripoli or whiting is quite as good without as with the use of the sal ammoniac, roche alum, &c., as any one may know who is acquainted with the chemical properties of those salts.

For the Scientific American.

Dear Sir,—It is not generally known—in fact the idea was perfectly original to me—that by placing a sheet of sieve wire in the fire place, so as to cover the mouth of the chimney flue, will prevent the chimney taking fire. It prevents the sparks or flame from arising, and can be made in such a manner as to be easily removed, and cleared of the soot that accumulates on it. The able firemen of this city have an arduous duty to perform, and I believe the majority of cases in which they are called out, arise from false alarm, caused principally by chimney fires; also a great number of our fires are caused in the aforesaid manner. Now if by such cheap, and simple means, such fires may be prevented, is it not the duty of every householder in this city to resort to it? Excepting myself, I know of no person who uses the above means to prevent fire. I therefore communicate what I call my simple invention to you, in order that you may test its utility, and through your valuable paper disseminate the information for the benefit of the world in general, and your readers, in particular, wishing no other reward than the satisfaction of knowing that my information may have a tendency to lessen the duties of our ill-paid, much-abused, energetic fire department. With much respect, Egnia.

New York, Jan. 28th.

Case Hardening Iron.—The term "case-hardening" signifies the conversion of the surface of iron to steel, by means of the application of carbon, and then hardening the steel surface by suddenly cooling it from a heated state. There are various modes by which this may be accomplished, but the most convenient, is by means of prussiate of potash, a substance which contains a large quantity of carbon. In most cases, nothing more is required than to brighten the surface with a file, or otherwise, and heat it to a glowing red, and rub it over with a lump of the prussiate, avoiding the fumes that may rise therefrom, and while the iron remains moderately red hot, plunge it in cold water. But a more effectual method is to make a paste of the prussiate of potash and fine loam, ground together in water, and coat the iron with it, and subject the whole to a strong heat: then take it from the fire, and when the color has fallen to a dull red, plunge the whole in cold water.

Licence Laws.—We seldom hear a more palpably ridiculous argument, than that because the U.S. Constitution permits men to import ardent spirits, it is therefore unconstitutional for the State authorities to restrain the intemperate use of them.

There appears to be some crowding and contention among the Democratic papers of this city for the public (city) patronage. Some of them will probably turn Whigs in consequence.

Variety

The town of Collins, Erie county, N. Y., made 554,000 pounds of cheese during the last year. The town of Fairfield, Herkimer county, made 1,355,937 pounds during the same period.

There are 859 vessels belonging to the port of Boston, of which 183 are ships, 147 barques, 156 Brigs, 291 schooners, 69 sloops, and 13 steamers. They are generally well employed.

The ruins of the great fire in July last are still burning in some places, and the burning materials emit a very disagreeable odor, that is, at times, very offensive.

There are in New York 255 licensed omnibusses, or stages as they are usually called. Of these 250 have two horses each, and 5 only have four horses each, whole number of horses employed 520.

Some person has been amusing himself by counting the passengers as they passed one of the public houses in Broaeway, from which he estimates the entire number for twelve hours at 94,000.

The present Governor of Liberia is said to have been formerly a slave in Virginia. He is highly spoken of as being a sensible, dignified, mild and courageous officer.

Baer, the Buckeye Blacksmith, is taking daguereotype likenesses at Wilmington, Del. He will probably succeed at that, as he is somewhat accustomed to *high coloring*.

In most of the principal cities and towns in Connecticut, the Commissioners have refused to grant any licenses to sell ardent liquors in any quantity, large or small. Topers will have a dry time.

The publication of a new paper has been recently commenced by the inmates of the New Hampshire Asylum for the Insane. They must be *crazy* to start another paper at this season.

There is a cask in a decayed castle, in Germany, of a capacity to contain 800 hogsheads,—about 48,000 gallons. It is built of staves and hoops, and was once the property of the Elector Palatine.

A new mode of covering roofs of houses has been introduced in Cincinnati. Cheap cloth, coated with tar, tallow and lime, is substituted for shingles, and is much cheaper.

The soil of England, in 1775, was owned by 290,000 people; but in in 1815, the number of landholders had become reduced to about 30,000. It may yet all fall into the possession of one man.

An express, with the news by the Hibernia, travelled from Boston to Montreal, via Keene, N. H., and Montpelier, Vt., in twenty-six hours and thirty minutes.

The paintings of the late artist, Henry Inman, are to be collected and exhibited for the benefit of his bereaved family. They can not fail to draw extensive patronage.

A sugar factory has been put in operation in Portland, Me., for the purpose of manufacturing sugar from molasses. The sugar produced is said to be very fair.

The new block of buildings recently erected on William street, and extending from Fulton to John sts., is nearly finished and tenants are moving in. It is unequalled by any block in the city.

The new ship Wyoming recently sailed from Philadelphia with 10,200 bushels of wheat, 6,270 bbls. of flour, 143 bales of wool, 111 hhds. clover seed, and 25,000 feet of walnut and maple veneers.

Two carpet factories and a large flour and grain mill, in Billerica, Mass., were destroyed by fire on Saturday morning last. The property was valued at $30,000.

The public printing at Washington, is said to have yielded a profit of $50,000 per annum for the last ten years. Of course the most adroit party tools have the preference.

The Tombigbee at Aberdeen, Miss., is so low as to be unnavigable for boats, which occasions much embarrassment at that place. It should be called Tom-little-by.

We are informed that the Telegraph between Albany and Utica, is finished and has commenced operations. Several other lines are progressing.

Some of the temperance papers are admonishing farmers against selling grain to distillers to be converted into intoxicating poison.

There is now in use in the State of Massachusetts 700 miles of railroad, the whole cost of which was not far from $28,000,000.

A tremendous thunder storm occurred at Mobile on the evening of Sunday the 18th ult. Several vessels in the harbor were driven on shore.

A movement is on foot to *compel* the railroads between Albany and Buffalo to reduce their rates of fare from *four* to *two* cents per mile.

There were imported into Portland, Me., during tee last year, 74,447 barrels of flour, and 153,764 bushels of corn.

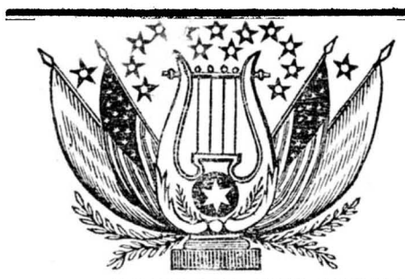
Most of the boot and shoe dealers in this city have agreed to close their shops at 8 o'clock henceforth, for the benefit of clerks and assistants.

A Mr. Pitman, of England, has made a great improvement in the art of short-hand writing. He drops the consonants altogether.

Mr. Meneely, of West Troy, has made a valuable improvement both in the tone and the working of church bells. The tongue is aided by springs.

There is a man in Woburn, Mass., who entertains so strong *peace* principles, that he will not allow even his house clock to *strike*. So says the Gaz.

© 1846 SCIENTIFIC AMERICAN, INC.



From the Baltimore Satruday Visiter.

Hail to the Cause!

TUNE—"*hail to the chief.*"

Hail to the cause now in triumph extending,
Honored and blessed by the free and the brave,
Peace to the world by its influence lending—
Long may it flourish, and millions yet save!
O, may it yet extend
To Earth's remotest end,
Whilst all by its power to virtue it draws,
And every hill and plain
Send the shout back again,
"Honor and praise to the Temperance Cause!"

This is not a cause like the flower to flourish
A moment in beauty, the next but to fade.
No! sooner the mountains and valleys shall perish,
And earth to sustain us, no more lend her aid;
Till all the world is free
Onward its course shall be,
Unchecked by opposers, sustained not by laws,
And from each hill and dell
Shall the glad anthem swell,
"Honor and praise to the Temperance Cause!"

Gladness.

Let us always rejoice, whatever betide,
Though myriad blessings to us are denied—
Though our pathway o'er earth seems darksome and drear,
There is much all around us to gladden and cheer.

Earth's gardens are fruitful, rich blossoms are there,
Which mortals may cull, if they seek them with care;
They may gather pure gems, as with caution they stray
'Mid the thorns and the weeds of earth's rugged way.

Let us always rejoice, banish sorrow and we,
And bid each sad bosom with rapture to glow;
For the world before us hath joys to be sought,
And all Nature with blessings to cheer us is fraught.

Why should we in sadness lament and repine,
Whilst flowers of pleasure about us do twine,
Whilst the bright orb of Friendship is darting its beams,
And the fountain of Hope is shedding its streams?

Let us always rejoice, be blithesome and gay,
Time's chariot wheels soon will bear us away;
Each hour is flitting, like the meteor gleam,
And life will soon shed its expiring beam.

Then let us be joyous, abroad or at home,
Seem gladsome and cheerful, wherever we roam—
Friends then will arouse, as they list to our voice,
And, inspired with pleasure, be glad and rejoice!

The Snow.

The snow! the snow! the beautiful snow;
How gossamer like its fall,
As it lights around, on the whitened ground,
The schoolboy's shout with its ringing sound
Is answering clear to his playmate's call;
And his cheek hath a ruddier glow.

It has drifted here; it has drifted there;
And the darkened and muddy street,
Is covered beneath the feathery wreath
Which it lightly flings from its frosty breath,
And the flying balls from the horses' feet
Are dancing in the air.

Huzza for the snow! huzza! huzza!
And the sleighs glide swiftly by,
Whose merry bells, in music tells
Of the laughing voice, and the heart that swells
With the moving glee, and the glancing eye
Like starlight flash as they pass away.

It snows; it snows; and the flakes as they fall
Have entered the broken pane;
It hath covered the floor of the shivering poor
As it sweeps thro' the cracks of the gaping door
And leaves on the hearth its glistening train
That speaks of its wintry call.

Why falleth it here, on the creaking floor,
In a track so pearly white!
It doth mock their woe, where no embers glow,
And no voice of mirth doth know,
When it falls like a withering blight
In the cheerless homes of the poor.

The hoary guest; no joy he brings
To the pale and shivering form,
Who in terror wild hath grasped her child,
As she sees the drift on the hearthstone piled,
That shrinking from the storm,
More closely to her clings.

The piercing wind; how it blows
Through their garments so tattered and thin;
And the wrinkles of care are furrowed there,
Where it lifts from her brow the dark matted hair,
But her heart is more cheerless within.
God help the poor when it snows.

THE THIEVE'S GARMENT.—The most expensive article of gentlemen's apparel is the full circular cloak; and yet it is remarkable that most of the larcenies in the purloining of goods, are committed by persons wearing cloaks of this description, insomuch that the appearance of this garment gives the wearer as suspicious appearance, and readily reminds one of the principal recent larcenies about town.

VERY MUCH.—Speaking of ice, a "down east" editor remarks that "ice made in the Eastern States is much better, inasmuch as it is much colder than that produced out west." much as this man writes "much" about ice, he does not appear to know much.

DREADFUL HAVOC.—An exchange paper says that nearly 50,000 000 gallons of ardent spirits are annually consumed in the United States. It is probably the opinion of some, that they are evil spirits, and that the sooner they are consumed the better.

A QUERY.—"How many knaves do you think there are in this street, besides yourself?" "Besides myself, sir! What do you mean, sir?" "Ah, beg pardon, sir, I meant to say how many including yourself?"

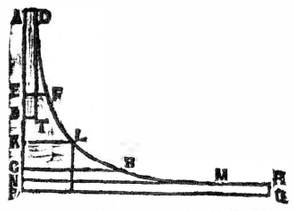
An Up-and-Down Government.

The success of the most prosperious people in acquiring wealth, is generally attributed to their superior wisdom and judgment in laying their plans in a manner to take advantage of the existing laws, regulating commercial operation, &c. But in this country, where laws and systems of laws are changed every year, the community are left in such "glorious uncertainty" in this respect; and plans of enterprise or speculation are so frequeutly headed and overturned by some change in the laws, that the advantages are more equally distributed amonst people of different degrees of ability, and success is made to depend more generally on chance. If our tariff laws were permanent, the merchants, farmers, and manufacturers would lay their plans of business operations accordingly; but under the present whiffling and manœuvring, no foundation can be found for such plans. If an American merchant ship is returning, freighted with a cargo, from a foreign port, a high tariff law is passed, which nearly prohibits the landing of the cargo in the American ports. If the manufacturer constructs expensive canals, mills and machinery, and employs operatives at fair prices, the ports are opened to cargoes of foreign goods, which are sold below the cost of manufacturing in this country; the farmer, who had prepared to furnish the manufacturers with fuel and provisions, abandons his farm; the cotton grower, and corn grower, send their produce to a foreign market, and become dependant on the merchant to take the produce and to furnish foreign goods at his (the merchant's) own prices, while the merchant is afraid to purchase vessels from the ship builder, lest a new tariff law should suddenly render them useless. So we go: the people of this country have a commendable disposition for enterprise, and ability unrivalled for establishing business facilities and carrying forward important works, tending to the prosperity of the whole community; but their plans being continually thwarted by factions of selfish, knavish and intriguing politicians, in whose breasts the general welfare and prosperity of the country, would be the last thing to find a place, thousands of the people become discouraged, and either join these pernicious factions in hopes of sharing in the public spoils, or abandon themselves to indolence and intemperance, apparently waiting for a "reform in the times," before they will try to do anything for the public or for themselves. And these things will probably continue till, in the progress of light, the people become wise enough to withdraw from the public servants at head quarters, the power of fixing their own salaries, and of appropriating the public resources to the purpose of promoting and establishing their own power over the people.

THE PROBLEM IN No. 19.—Our esteemed correspondent, whose answer to this problem we give at length, has given a correct answer as far as it goes, but which amounts to no answer at last; for, as we well understood when proposing the problem, it is not capable of being answered. That is the beauty of it; for although *time* would continue, and the two minutes *would terminate*, yet it is evidently impossible that the accelerated motion could extend to the duration of two minutes, and hence it almost appears to the mind, in view of the motion, that time itself could not continue.

For the Scientific American.

A solution of the Problem published in the Scientific American, No. 19.



Draw a hyperbole curve, D F L H R, and its asymptotes, P A, and P Q. Now the properties of this curve are such that if the several distances, A E, E K, K G, &c., on one of the asymptotes are taken in geometrical progression, decreasing, then their ordinates, A D, E F, K L., &c., will be their reciprocals, or will be a series of lines in geometrical progression, increasing; and the spaces, A D, E F, E F L K, &c., intercepted by these ordinates, between the curve and asymptote, will all be equal, (See Scholfield's Geometry, Proposition xiv. and xv. Book I. Part iv.) Let E F be=2 A D, and K L= 2 E F, &c.: let each of those equal spaces, A D, E F, &c., represent the ratio, or the number of revolutions required to double its velocity; and if A D represents its incipient velocity, or 10 revolutions per minute, then E F will represent the velocity after making 10 revolutious, or after passing through the area or space, A D F E; and A E, or A K, &c. the distance passed through on the asymptote may represent the time during which the accelerating motion is continued; A S=one of the equal spaces A D F E, divided by the ordinate A D, being the unit, or one minute, the area A D T S, being=the area A D F E. Hence A K will represent the time, in terms of the unit A S, in which the wheel has acquired the velocity due to R L; A G, the time in acquiring the velocity G H, and A P, the time required to produce the velocity P Q, represented by the asymptote produced to infinity. By inspection, it will at once be seen, that A P is not so great as 2 A S; hence the wheel cannot have been in motion two minutes before its velocity is infinitely great, and the time required to perform any specified number of revolutions is infinitely small. It does indeed appear extremely paradoxical that a wheel, under such circumstonces could not run during the space of two minutes, removing its physical obstructions; but it is mathematically true that the incremists of its motion are of such a nature that the ratios of time and velocity pass to the two extremes of magnitude; or to infinity in about one and a half minutes, which may readily be perceived by inspection of the figure; for it is evident that the several terms assumed in the figure have the same relations and are subject to the same conditions, as the time, velocity and increase, expressed in the question, and it is evident from the properties of the hyperbole that if the asymptote A P representing the time, should be extended toward P, its relations to the other quantities could no longer be sustained according to the conditions expressed. SILENUS.

THE PASTORAL LIFE
AND
Manufactures of the Ancients;
comprising
THE HISTORY OF SILK, COTTON, LINEN, WOOL, AND OTHER FIBROUS SUBSTANCES, INCLUDING

Observations on Spinning, Dyeing, and Weaving; with appendices on Pliny's Natural History, on the Origin and Manufacture of Linen and Cotton Paper, on Felting, Netting, &c., deduced from copious and authentic sources.

ILLUSTRATED BY TEN ENGRAVINGS ON STEEL.

1 vol. 8vo., pp. 464. New York: Harper & Brothers.

Price $3,00

A most remarkable and valuable work; it exhibits a variety and extent of knowledge and industry of research perhaps unequaled in any other work ever issued in this country: its pages are luminous with deeply interesting anecdotes and curious information, as well as with most novel and highly valuable historical and mercantile data.

It has been published in a style of great elegance, and is very copiously embellished with illustrations executed in a truly admirable style. The volume is one which should find its way into every Library.—*N. Y. Courier and Enquirer.*

A highly interesting and instructive book, which we commend to the attention of the scientific, as well as the pobular reader.—*N. O. Bee.*

There is much curious and interesting information here given as the manufacturing skill which the general reader as well as the classical scholar, will be glad to find collected and arranged for him. The deeds of renown performed by the Ancients in *Arts*, are not so far behind those of *Arms* as some imagine. This history, wnich may be called an account of the origin and progress of the domestic arts, will have a special claim upon the attention of those who are now engaged in the improvement of those arts.—*Alexandria Gazette*

It is got up in a very handsome style of typograpy, and belongs to that class of books which will have a permanent place on the shelves of the library. It recommends itself not only to the inquisitive scholar, but is full of information, entertaining and instructive to all.—*Mobile Register.*

It is a work which no scholar can afiord to do without, and which needs no recommendation from us to those engaged in manufacturing pursuits.—*Broadway Journal.*

Every page abounds with pleasing anecdotes or apt illustrative questions. The mass of information collected by the compiler is immense, and he has so arranged it as to make one of the most agreeaable books ever issued from the press. We are highly pleased with that portion relating to the pastoral life of ihe Ancients. It presented them to us in a new aspect, and was like their admitting us to the privacy of their domestic life without even dreaming that they should become famed in story.—*Buffalo Commercial Advertiser.*

The subject matter is of great interest and value, and the work is manifestly one of great research and evincing scholarship. It is a book which would be read with pleasure by all; they would meet in its pages very much in respect to the social life and manufacturers of the Ancients, which is probably new to most. To the classical scholar, also, it is a useful illustrations of many passages of his favorite authors of Antiquity; and it throws not a little light on portions of the word of God.—*Bib. Repository.*

In such books are doubtless enfolded the gems of future inventions and discoveries of vast importance to human well-being. To Manufacturers and inventors it cannot fail to have a direct and positive value, as suggestive of the future advance of improvement through its exhibition of the past; while even the fair and the delicate, whose hands are unsoiled by labor, may derive entertainment no less than instruction from a contemplation of the implements and processes of Female Industry many centuries ago, when the wives of the mighty warriors prided themselves on the excellence of their own fabrics, and Queens were not ashamed of the distaff and needle.—*N. O. Tribune.*

Nor can any approach to the amount of knowledge here condensed, be found in all the books of Oriental history and Chinese antiquities to be found in the English language: while the illustrations of the Scriptures which are here given in connection with ancient pastoral life, are numerious and invaluable.

We predict that this book is not only destined to hold a place in every public library as a standard for reference, but it will be read with high satisfaction by the cotton-growers of the South, the woolgrowers of the North, the silk cultivators and manufacturers of the East and West; so that, its extensive circulation cannot fail to reward its publishers, who have brought it out in the very best style of typography and binding.—*Emporium.*

This work embodies a great amount of exceedingly valuable, useful and interesting information, communicated in a correct and illustrative style. The history of the useful arts has been too much neglected, in the desire of the world to learn the rise and downfall of nations by the power of arms; to mark the strides of the warlike conquerer, has been more the object of all seekers of historical knowledge, than to trace out the rise and progress of the peaceful, but more interesting and useful sources of a nation's glory and prosperity.—*Springfield Republican.*

In this extraordinary volume' a work of singularly interesting character, we see full evidence of the great industry and judgment of the writer, in thus ably condensing this hitherto widely-divided knowledge.—*American Institute.*

The design of this beautiful volume is both novel and useful. The author has broughi together an immense collection of facts many of which are new striking, and of prime importance, derived from numerous sources inaccessable to the general reader. —*N. Y. Journal of Commerce.*

It contains a vast deal of curious and valuable information concerning the manufacturers of the Ancients.—*Lowel Courier.*

This work we consider to be one of a very extraordinary character, evincing a great research and affording a vast fund of deeply interesting and very valuable knowledge. Next to the desire of investigating into the state of the arts as they at present exist, the mind naturally recurs to the past, and desires to know when, where, and how each had its origin and in what manner, and by what gradations it has reached its present state; through what vecissitudes it has passed, and how its ancient compares with its more modern character. To all who may desire to make such a comparison, we commend this masterly production, which for astute investigation and clever arrangement, may well challenge a comparison with any similar attempt to show to the present generation that vast fund of knowledge to the arts possessed by the ancients.—*Industrial Record.*

"It is crowded with the most curious and most useful information, and on topics which are constantly attracting more of the attention of this country."—*American Review.*

Literary Notices.

We are in receipt of the February numbers of several of the most elegant and interesting periodicals, that are published in this city or in the world among whieh are—

THE LITERARY EMPORIUM embellished with a fine steel engraving of that splendid edifice, the Georgia Female College, and a plate of beautifully colored flowers, and containing a choice variety of interesting pieces in poetry and prose.

TVE YOUNG PEOPLE'S MAGVZINE also embellishec with beautiful engravings—the "Guardian Angels" and a colored print of the Magnolia Glauca. Both of these excellent works are editod by Seba Smith, and published by Wellman, 118 Nassau St. New York, and at the low price of one dollar each per annum.

SEAR'S NEW PICTORIAL ILLUSTRATED FAMILY MAGAZINE is an exceedingly useful as well as interesting and amusing work, abounding with beautiful engravings, illustrating things in generul, and especially the natural curiosities of the world. Published by R. Sears, 128 Nassau st. New York, E.J. Peet & Co. 109 Washington st. Boston, and T. B. Peterson, 98 Chesnut st. Philadelphia. Price $2 per annum.

THE YOUTH'S CABINET is now published in the form of a neat monthly magazine. Its contents are of a peculiar character, very instructive, interesting and amusing, and interspersed with a variety of handsome embellishments. It is published by D. A. Woodworth, Clinton Hall, 135 Nassau st. N. Y. for one dollar a year, and is worth more than double the cost to every family which consists in part of young people.

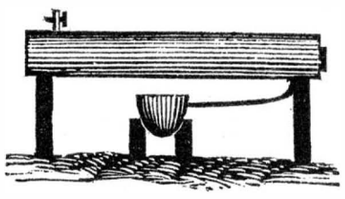
THE PULPIT, published by O. Scott, 5 Spruce st. N. Y., contains a choice selection of sermons, sketches, and plans of sermons, from living ministers, and is a work completely calculated to please and edify the large portion of the religious community, who are fond of evangelical discourses. It contains also a variety of religious miscellany. One dollar per annum.

THE PHRENOLOGICAL JOURNAL.—This work is published monthly at 131 Nassan st. by O. S. Fowler, and is calculated to illustrate the phrenological science. Each number is embellished with a variety of curious and comical heads, and many curious anecdotes. Altogether it is a very interesting work. price, one dollar per annum.

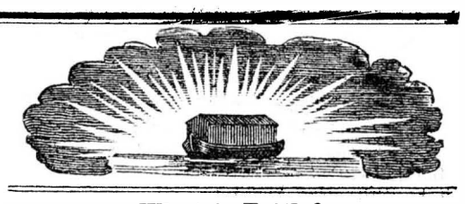
A LUCKY SET OF FELLOWS.—It is stated in a French paper that of the first 500 pupils at the military school at Fontainbleau, 203 died on the field of battle, 5 rose to the rank of lieutenant generals, 28 to that of major generals, and fifty seven to those of colonels and lieutenant colonels. The major part of the remainder rose to eminence as servants of the crown, or in civil professions.

LIBERALITY IN SACO, ME.—The Manufacturing Company, at Saco, Me., have just opened a reading room, for the free use of the men employed in their mills. It is to be supplied with the best publications of the day—is to be always warmed and lighted for their comfort and improvement in leisure hours.

Steaming and Drying Wood.



The utility of steaming-boxes for the purpose of rendering timber of various kinds pliable and capable of being bent in various forms, is well known to shipbuilders and various other mechanics; and the utility of drying-boxes, or rooms, for the purpose of thoroughly drying and seasoning timber is equally well known to cabinet makers and other craftsmen; but it is not generally known that either of these operations may be performed much more expeditiously and effectually by means of a strong air-tight cylinder, than by the ordinary process. The cylinder may be made similar to a common cylindric steam boiler, but not so heavy; twelve feet in length, and 18 inches in diameter, is a convenient size for most purposes, excepting shipwork, which requires more length. A door must be made to shut air-tight at one end, which may be easily done as the only pressure to be sustained is that of the atmosphere from without; and the door may be lined with strips of leather, if required. A boiler, or kettle with a tight lid is placed near, from whlch a short pipe must conduct the steam from the kettle to the cylinder, and this pipe must be attached near one end of the cylinder, and be furnished with a stop-cock; and another stop-cock or valve, is to be inserted near the opposite end of the cylinder, to be used as a vent. This cylinder may be used either for steaming or drying, and we shall proceed to describe each process, commencing with the former. Having placed the timber in the cylinder and shut the door—the water in the kettle being heated a little above the boiling point—open both valves, that the rush of steam may expel the atmospheric air from within; then suddenly shut both valves, and as the steam condenses, a vacuum will be produced, which will immediately occasion the liberation of the air pervading the pores of the timber: again admit the steam, and the timber will be quickly saturated and distended ready for working. But if the timber or lumber is to be dried or seasoned, the steam is to be admitted sufficiently to expel the air, and then suddenly be shut off, and the timber is left in the vacuum, which has a more powerful drying effect than the usual heat, under the atmospheric pressure. If a little quick lime be previously placed in the cylinder with the timber, it will facilitate the drying by the absorption of whatever moisture may be left by the steam.



What is Faith?

This question is plainly and repeatidly answered in tne Scriptures: but in the present instance we prefer to appeal to reason rather than the Scriptures for an answer. There is perhaps no one trait of human character, more prevalent and more unaccountable than the absence of genuine faith. We would not be understood, by this term, to mean a miraculous faith, which is supposed to exist without any foundation—a capacity of believing without evidence or reason; but the simple and rational capacity of believing facts which are abundently evident, and consistent with the voice of reason. There are millions of people who profess to believe certain rational and important truths, and suppose they do believe them fully, and would take it very unkindly in another, who should intimate a doubt of the genuineness of their faith; yet, alas, their frequent if not daily conduct too plainly proves that they have no pure feeling faith in their hearts on these subjects. They are indeed convinced rationally, and are conscious of abundant evidence; and have the confirming attestations of reason and sense. They confess the truth with their lips, and are excited with indignation towards those who speak against it: yet after all they themselves are evidently unbelievers, and are proved so by the most incontrovertible evidence and demonstration. Reader, are *you* one of this class of unbliever s? Can you be convinced that you have no true faith: and that you do not believe what you have openly professed to believe? You acknowledge and profess to believe without doubt, that there is a supreme, holy Being; that He is the author of your life and existence; and that He is every where present. Now if you do believe in your heart that you are ever in the hands of such a holy and glorious Being, you must inevitably feel a sensation of love and adoration to him; and if you verily believe that He constantly sustains you, and continues the vital heat and motion of your heart, over which you have no control, you will rejoice in the consciousness of the glorious fact. And if you believe Him to be always present to hear your words and see your thoughts, you surely cannot, dare not, do any unholy action, nor speak a word that is inconsistent with holiness, or with a sense of His presence. You probably feel some restraint in the presence of serious and amiably minded fellow men or women; in the presence of a pious clergyman; and would especially in the presence of the Governor of the State, or the President of the United States. Will you then pretend that you believe in the omnipresence of the glorious *Eternal One*, while you are jesting, laughing or indulging in airs of arrogance, pride and self importance. And especially if you profess to believe, as many do that you are to continue in conscious being forever, —time without end—and that your happiness or misery during the never-ending *eternity* depends on your conduct here, and yet you devote your time and abilities to the acquisition of the honors, pleasures, and wealth of this world (which you are commanded not to seek or love) you directly contradict your profession and prove at once that you *do not believe any such thing*. It is therefore plain that the only true and genuine faith, is not merely a rational conviction of the head, but must be accompanied with a corresponding feeling in the heart; such as to produce consistent action of obedience. This is the true and living faith, and is no other than the divine influence of the Spirit of God, which is freely given to every one who will venture to obey all the plain commandments (not of Moses,) but of Christ, and trust the consequences to Him who gave the commandments.

A Child's Faith.

Since all are required to become like little children, in order to inherit the Kingdom of God, we deem it proper and important that such strikingly natural and pleasing incidents as the following, which we copy from an exchange, should have a conspicuous place in every religious journal:

A beloved minister of the Gospel was one day speaking of that active living faith, which should at all times cheer the heart of the sincere follower of Jesus, and related to me a beautiful illustration that had just occurred in his own family. He had gone in a cellar which in winter was quite dark, and entered by a trap door. A little daughter only three years old was trying to find him, and came to the trap door, but on looking down all was dark—and she called: "are you down cellar, papa?" "Yes, would you like to come, Mary?" "It is dark, I can't come, papa." "Well, my daughter, I am right below you, and I can see you, though you cannot see me, and if you will drop yourself I will catch you." Oh! I should fall, I can't see you papa." "I know it," he answered, "but I am really here and you shall not fall, or hurt yourself. If you will jump I will catch you safely." Little Mary strained her eyes to the utmost, but she could catch no glimpse of her father. She hesitated, then advanced a little further, then summoning all her resolution, she threw herself forward and was received safely in her father's arms.

A few days after she again discovered the cellar door open, and supposing her father to be there, she called, "Shall I come again, papa?" "Yes, my dear, in a minute," he replied, and had just time to reach his arms toward her, when, in her childish glee, she fell shouting into his arms, and clasping his neck, said, "I knew, dear papa, I should not fall."

THE TRINITY CHURCH.—It is said that this Church holds property to the amount of nearly one hundred millions of dollars to which it has no claim or right whatever beyond possession; that the Church never bought it or received it in gift or endowment, but took possession of about 130 acres of land (now in the heart of the city) in the absence and minority of the real heirs, and was to strong to be dispossessed.

© 1846 SCIENTIFIC AMERICAN, INC.

General Agents.

Colon &Adriance, 28, 29, 30, 31 Arcade, Philadelphia.
Hotchkiss & Co., 13 Court street, Boston.
R. K. Porter, New York City.

Local Agents.

S. Sands, 122 Baltimore st., Baltimore.
Lees Garside, Corner of Main and Market streets, Paterson, N. J.
J. W. Davis, Lowell, Mass.
S. Thompson, Worcester, Mass.
W. H. Wells, Springfield, Mass.
H. P. Barnes, Pittsfield, Mass.
T. Dickinson, Newark, N. Y.
T. S. Hawks, Buffalo, N. Y.
G. W. Hildreth, Lockport, N. Y.
William M. Beauchamp, Skaneatles, N.Y.
Peter Cook, Hartford, Ct.
E. Downes, New Haven, Ct.
William Woodward, Middletown, Ct.
S. Jones, Colchester, Ct.
J. Hunter, Thompsonville, Ct.
H. S. Snow, Meriden, Ct.
Safford & Parks, Norwich, Ct.
Col. A. P. Chesley, Huron, O.
Chas. O'Neal, Darien, Ga.
Major J. Nathans, Quincy, Flo.
Daniel Cobb, Providence, R. I.
H. J. Pitman, Bristol, R. I.
R. Kidney, jr., 123 Broad street, Newark, N. J.
Thomas Boynton, Windsor Vt.
Shipley W. Ricker, South Berwick, Me.
W. H. Ward, Washington, D. C.
J. Buffam, Nashua, N. H.
David P. Perkins, Manchester, N. H.
C. M. Smith, Manchester, N. H.
J. M. Franeis, Hoboken, N.J.
C. D. Bearce, Portland, Me.
Benj. Perry, Salem, Mass.
W. P. Seaver, Taunton, Mass.
P. W. Tenny, Newburyport, Mass.
J. A. Fay, Keene, N.H.
Norris Hubbard, Southport, Wisconsin Territory.
G. W. Arnold, Peru, Ill.

Travelling Agents.

Clark Selleck.
J. A. Lattin.
Porter Anthony.
J. La Fumée.

LIST OF LETTERS,

Received since January 1, 1846.

J S West, Portland, N Y, $3.00; E Buss, East Wilton, NH; P Dendroff, Lebanon, O (2) 2.00; J A Lattin, (3) 35.00; D Cobb, Providence, RI, 5,00; H P Barnes, Pittsfield, Mss, 2.00; John Wood, W. Creek, N Y; Sheldon & Algier, Hartsville, Mass, 1.00; Safford & Parks, Norwich, Ct, 8.00; N Hubbard, Southport, WT, 2.06; J Emery, Bucksport, Me; E Burke, Washington, DC; J O Brien, Washington, DC, (4); J Reynolds; Haliburton & Co, Boston (3) 15.25; H Munger, Chicopee Falls, Mss; J C Smith, Boston; G W Hildreth, Lockport, NY; E A Taylor, Demopolis, Ala, 1.00; M B Peters, Hoosick Falls, NY; J La Fumée, NJ, (2) 2.00; J Mears, Boston: J J Robinson, Belleville, NJ; L Jones, Colchester, Ct; PM, Danbury, Ct, 1.00. S Thompson, Worcester, Mass, 10.00; W H Wells, Springfield, Mass; Hotchkiss & Co, Boston, (2) 6.50; E B Merrill, Manchester, NH; S Sands, Baltimore, (2) 10.00; W H Ward, Washington, D C; S J Payne, New Haven; W Robinson & Co, New Bedford, Mass; N E Hale, Nashua, NH, 2.00; D N Cummings, Enfield, NH; JR Eaton, Royalston, Mass; D Fay, Washington, D C; W C Henry, Monroe, NY; E Robinson, Waterbury, Ct, 1.00; C J Woolson, Worcester, Mass; D Cobb, Providence, (3) 8.00; S B Knapp, F Creek, Mich; Jas Henry & Co, Pinkville, O; Colon & Adriance, Philadelphia, 5.00; R Stewart, Michigan City, Ind; P M, Ripley, O, 2.00; G Gleason Burlington, 2.00; J N Hastings, S Hadley, Mass, 2.00; F Turner, Stockbridge, Mass; P M, Stockbridge; PM, Millbury; PM, Plymouth; PM, Bangor; PM, Dover, PM, Georgetown; PM, Falmouth; PM, Saccarappa; G Marsh, West Boston; B Buckman, Woburn, Mass; G R Snow, Boston; NJ Ashman, Tiffin, O, 5.00; J Allen, Uniontown, Pa; J Gardner, Christiansburg, Va; A S French, Dexter, Me, 1.00; P M, Foxborough, Mass; PM, Milford; PM, Shelburn Falls; PM, Derr; J Sargent, Leicester, Mass; F D Judak, Greenfield, Mass, 1.00; A B Turner, Cherryville, N Y, 2.00; M Scott, Jacksonville, Va, 1.00; J M Cann, Mt Jackson, Va; C Chickering, N Ipswich, N H; P M, Bristol; PM, Hanover; J H, Patch, East Cambridge, Mass; P M, Newport; S Newman, Gt Barrington, Mass; P M, Hallowell, Me; S Brooks, York, Me; G S Bailey, West Newbury, Mass; PM, Dedham; H J P, Bristol, 1.00; J P Shannon, Baltimore: J S Clark, China, Mich. 1.00; J S West, Portland, N Y; S Jones, Colchester, Ct.; $5.00.

PROSCH'S

Daguerreotype Rooms,

EXPRESS BUILDING, 112 BROADWAY,

Nearly opposite the City Hotel, New York.

Likenesses obtained at this establishment in superior style, and inclosed in a handsome Case for One Dollar—Fifty Cents additional if colored and sealed.

Every Portrait shall give satisfaction or no sale.

N. B. Instruction given in the art, and the most improved apparatus, &c., furnished on as favorable terms as elsewhere. GEO. W. PROSCH. feb4

FREE EXHIBITION,

Persons are invited to call and see their own

PORTRAITS,

IN DAGUERREOTYPE,

to purchase at not, at their pleasure, at

A. SEALEY'S

Daguerrian Room, Southeast corner of Broadway and Fulton stteet,

(Entrance 156 Fulton,) New York.

Plain Portraits, including morocco case, $1 00; colored do. $1 50. feb4

Plumbe National Daguerrian Gallery,

AND PHOTOGRAPHIC DEPOT,

251 *Broadway, corner of Murray street, New York,*
(over Tenney's Jewelry store,)

Awarded the Medal, four first premiums and two "highest honors," at the exhibition at Boston, New York, and Philadelphia, respectively, the best pictures and apparatus ever exhibited.

Price of these superb photographs reduced to that of ordinary ones at other places, so that no one need now sit for an ordinary likeness on the score of economy,—taken in any weather.

Plumbe's premium and German Cameras, Instructions, plates, cases, &c. &c., forwarded to any desired point at lower rates than by ony other manufacturer.

Wanted—two or three skilful operators. Apply as above. jny29

The Best Ink Known,

Two Silver Medals Premium!

At the Annual Fair of the American and Mechanics' Institute for 1846, a SILVER MEDAL was awarded by each to Thaddeus Davids for "the Best writing Ink known." 500 gross 2, 4 6, 8, 16, and 32 oz. steel pen ink; 100 gross, ditto blue, red, japan, and copying ditto; 200 gross, Indelible Ink, warranted, with and without a preparation in elegant cases; 5000 lbs. wafers, all sizes and qualities from 10 to 50 lbs.; 10,000 lbs., sealing wax from 6cts. to $1, per lbs. For sale, wholesale and retail, on accommodating terms, by THADDEUS DAVIDS,
Importer and manufacturer of sealing wax, wafers, inks, indelible inks, &c., No. 112 John street, New York, and by all stationers, booksellers, druggists, &c., in the United States. jny29

J. CHAPMAN'S

Gentlemen's Furnishing Store,

No. 354 Pearl Street,

One door from Franklin Square, New York.

Stocks, Cravats, ready made linen, hosiery, gloves; and a variety of other articles, of the best quality, constantly on hand, and for sale at the lowest prices. jny 29

ELEGANT DAGUERRIAN

Portraits,

Furnished in neat morocco cases for

ONE DOLLAR,

By H. E. INSLEY, 122 and 124 Broadway.

GURNEY'S PREMIUM DAGUERRIAN Gallery, 180 Broadway, New York.—Pictures taken at the establishment are not excelled in this country—so say his numerous patrons. The public are respectfully invited to call and judge for themselves.

Engraving on Wood.

THE subscriber is prepared to execute

WOOD ENGRAVINGS

of Machinery, Landscapes, Plans of every description for newspapers, book embellishments, &c. &c., in good style, and at short notice, at 89 Nas au street, in the SUN BUILDINGS,

and adjoining the office of the Scientific American.
Dec. 12. C. W. BUTLER.

Levi Chapman.

No. 102 William Street, New York.

Manufacturer of the

CELEBRATED MAGIC RAZOR STROP

of four sides.

Also, Pocket Books, Wallets, &c.

On the most extensive scale.

L. C.'s facilities for manufacturing Pocket Books, or Wallets, for the supply of those wholesale dealers who buy to sell again by the gross or dozen, are unequalled, he having employed for the last ten years from 50 to 270 workmen. His present well regulated system of *division of labor*, enables him to supply these articles at a very great reduction, at least one third less than former prices.

Strops retailed at from 50 cents to $1,00 each, varying only in outward finish and size—warranted to please or the money returned. jan22.

The Nautilus.

The most complete, improved and perfect

LIFE PRESERVER

that has ever yet been used or known, is manufactured and for sale at No. 90 Nassau street. This instrument is so constructed as to be condensed into a small compass, and may ever be carried in the pocket; but when required for use, it instantly inflates itself, and may be adjusted round the body and secured in one fourth of a minute, and will effectually secure the wearer against the possibility of drowning. The price of the article is $3,50. jan 22.

CUMMINGTON QUINEBAUG SCYTHE STONES.

From the celebrated Robbins' Ledge.

MANUFACTURED by J. S. STAFFORD & CO., Cummington, Mass.—The unprecedented sale of the Cummington Quinebaug Seythe-stones, during two years, has fully established their claim to superiority over all other stones now in use, and renders unnecessary any recommendation from the proprietors.

☞ A continuance of public patronage is respectfully solicited. All orders addressed to J. S. Safford, or Jacob Morse, (sole proprietors,) or Stephen Morse, Agent, Cummington, Mass., will meet with prompt attention.

For sale at all the principal hardware stores. nov9

JOHN BROWN.

CARPENTER AND PRINTER'S JOINER.

Nos. 29 & 61 Ann-street, N. Y.

MANUFACTURER of Cases, Stands, Furniture, &c. Stereotype Blocks, of various sizes.

Box-wood and mahogany, for Engravers, always on hand.

Stereotype plates blocked at short notice.

Press, paper, and letter boards, of every description.

Book-binders' cutting and pattern boards.

Stereotype boxes, made to order.

Printers', stereotypers, type-founders's, and book-binders' jobbing work done at the shortest notice.

N. B. Orders from various sections of the country solicited, and promptly exeeuted. nov9

W. N. SEYMOUR & Co.

IMPORTERS AND DEALERS,

AT THE

Old Established Hardware and Tool Store,
No. 4 Chatham Square,
(at the Foot of the Bowery, N.Y.)

HAVE the greatest assortment of Hardware for builders; Mechanics' tools of all descriptions.

Wm. Graves & Sons' warranted cast steel files & tools.

Worrall's warranted cast steel saws.

Hoe & Co.'s do. do. do.

Cabinet Trimmings. Tin and wooden ware.

House-keeping articles of great variety.

Agricultural tools. Patent Safety Fuse for blasting.

Sole Agents, for this city, for J. A. Fay's patent Mortising Machine.

THE INVISIBLE DOOR SPRING.

W. N. S. & Co. have taken the exclusive agency, for this city, of Ellis's Invisible Door Spring, which commands a ready preference over all others, and has made arrangements to have them put on and adjusted to the doors of those who may require them; Mr. Shaffer, 75 Warren st, is engaged to superintend this department, and will promptly attend to all orders in this line.
Dec. 25.

ADAMS & Co.'S

GREAT EASTERN, SOUTHENR, AND WESTERN

Daily package EXpress.

ADAMS & CO. respectfully give notice that their arrangements for their various Expresses have been perfected with the greatest care, and enable them to forward, with the utmost security and rapidity, and at moderate rates, Merchandize of every description, viz.:—Boxes, Bundles, Packages, Specie, Bank Notes, samples, valuable papers, &c. &c., to

Boston,	Hartford,
Worcester,	Springfield,
Norwich,	Philadelphia,
New London,	Baltimore,
New Haven,	Washington, D.C.
Fredericksburg, Va.	Wilmington, N. C.
Richmond,	Charleston,
Norfolk,	Savannah,
Portsmouth,	Augusta, Ga.
Petersburg,	Cumberland,
Wheeling,	Pittsburg,
Cincinnati,	Louisville,
St. Louis,	

Our Agents in these several Cities pay particular attention to the collection and payment of Notes, Drafts, Bills, &c., and all other business appertaining to our Express.

In connexion with Messrs. Wilmer & Smith, of Liverpool, we have established an European Express, similar in its design and operation to our American Express, and alike beneficial to the Merchants and Importers of both countries. Custom House business promptly attended to.

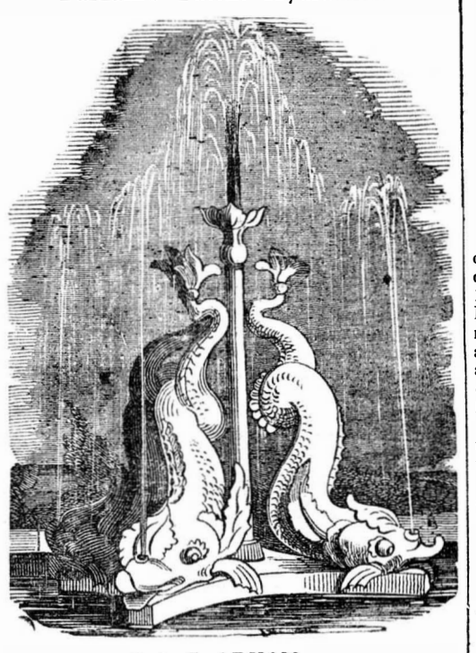
Express for the South and West leaves the Office daily, at 1-4 to 3, and half past 4 P.M.

Express for the East at 1-4 to 5 P. M.

Merchants and others will bear in mind, we run the only Express Cars between New York and Baltimore.

feb4 nv9o5w ADAMS & CO., 16 Wall street,

Farnam's Patent Hydraulics.



D. L. F ARNAM,

(29 FULTON STREET, N. Y.)

MANUFACTURES Cast Iron Fountains in great variety, at prices from Five to Five Thousand Dollars;—also Lift and Force Pumps, calculated to raise from ten to six thousand gallons per minute, and fitted for every variety of purpose for which they can be required. Fire Engines, of superior powers; Leather Hose, Wind Mills, Water Wheels, Horse Powers, Lead Pipe, Air Pumps, Brass Work, &c. &c.

D. L. F. has pulished a work on the subject of Hydraulic apparatus, Fountains, &c., which contains much useful and practical information, and among others 18 cuts of Fountains, with their prices;—the book can be forwarded by mail to those requiring information on the above subjects. nov9

JUST PUBLISHED,

A new edition of

THE BUSINESS MAN'S GUIDE,

and

LEGAL COMPANION:

CONTAINING a selection of Forms for Mercantile and money transactions, so prepared as to enable business men to effect these transactions without legal assistance, to which is added

Interest and Money Tables,

and

ABLES OF WEIGHTS AND MEASURES,

computed by a member of the Massachusetts bar.

Price 25 cents. HALIBURTON & CO.,
No. 12 State street, Boston.

All agents and newsmen supplied at the usual discount, by addressing their orders as above. nov28

Marshall's Troy Shirt Depot.

AT this Establishment may be seen the largest assortment of Shirts, Bosoms, Collars, &c., to be found in the city—all of our own manufacture, in Troy, which we offer to dealers and citizens in general, 25 per cent. below city prices. The above goods have won too high praise to need any puffing from us. It is sufficient to say that we are now patronized by all the principal dealers in the city, and the above goods have been generally approved of throughout the country, for being well made and for cheapness.

Just received—Linen bosom shirts with linen collars and wristbands—warranted—at 62 cents, 75 cents, 87 cents, $1, $1,25, $1,50, $1,75, $2. Also linen collars at 4 cents, 6 cents, 12 1-2 cents, 18 3-4 cents, and 25 cents.

MARSHALL'S, 90 Chatham st., N.Y.

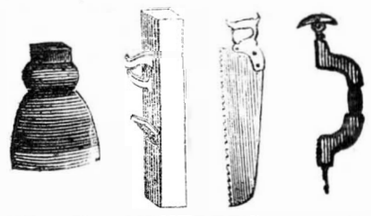
N.B.—Northern, Southern, Western and Eastern Merchants, who are making their purchases at the wholesale dry goods houses, will do well to inquire for goods of our manufacture, as it is sometimes the case, that other kinds are kept by them.

Lap-welded Boiler Flues.

PROSSER'S PATENT.

THESE Flues alone, are now used in their marine engine boilers, by the French and English governments, and also by companies and private individuals for marine, locomotive, and stationary boilers where rapid generation of steam, with economy of fuel, weight and stowage is an object of consideration.

They can be obtained only, of the Patentee, at No. 6 Liberty street, New York. THOS. PROSSER,
Nov 19tf. Patentee.



AT HENRY ROWNTREE'S old established *Tool Store*, at the Corner of Chambers and Chatham streets, Mechanics, Farmers, &c., will find an assortment of good Tools, suitable for almost every branch of trade.

H. R. feels obliged to his many customers, of every class, for their past patronage and hereby assures them that no pains shall be spared to procure the best articles in all variety.

H. R. has a greater part of his goods made expressly for him, and Mechanics, &c., may place confidence in them, having had the gold medal awarded him, at the late Fair, for the best tools.

First rate Razors; Pen and Pocket Knives; Table Knives and Forks, &c.

☞ Remember, at the corner of Chambers and Chatham streets. dec26

J. M. DOLAN.

SCOURER AND CLOTHES RENOVATOR.

HAS the pleasure to announce to his customers and their friends, that he has a New Composition for removing stains, without injury to the cloth, (having a thorough knowledge of material used in the manufacture of cloth,) and restore its original color, without injury, on the most reasonable terms.

Gentlemen, this is worthy your attention. Please call and examine for yourselves, at

561 Pearl st., one door from Broadway.

☞ J. D. will call in any part of the city for their accommodation. Altering and repairing with neatness throughout. sep18

Patent Agency.

DRAWINGS and specifications of machines, with other papers requisite for procuring Patents of New Inventions, will be furnished at short notice, at the office of the Scientific American. No charge will be made for advice or instructions on the subject of securing Patents.

JOHN W. DAVIS,

GENERAL DEALER IN

DAILY, WEEKLY, MONTHLY, AND ANNUAL PERIODICALS,

nov9 5 John st., Lowell, Mass.

GALVANIC RINGS

AND

MAGNETIC FLUID.

DR. CHRISTIE, the original inventor and patentee of these celebrated articles, informs the public, that the ONLY place in New York to obtaim them GENUINE is at 134 Fulton street, Sun building. In all cases of RHEUMATISM and Nervous Complaints, no matter how chronic or severe in their character, the GALVANIC RINGS and MAGNETIC FLUID are a *positive* and *permanent* cure, and every day brings fresh evidence of their wonderful efficacy in cases where every thing else has entirely failed.

☞ Bear in mind, that all articles of the kind not obtained at 134 Fulton street, Sun Building, are base and worthless counterfeits.

For sale in any quantity, and at prices within reach of all. Pamphlets can be obtained gratis. nov9.

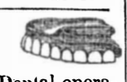
GENERAL PERIODICAL DEPOT.

HALIBURTON & CO.

No. 12 State street, Boston.

ARE constantly supplied with all the most fashionable and attractive Magazines and other periodicals, together with a variety of cheap literary works, pictorial papers, and elegant prints. nov13

TEETH.



THE cheapest office in this city for Dental operations is Dr. Brown's, 280 1-2 Broadway, between Reade and Chambers st.

Natural and mineral teeth inserted from	$1 to 3 50
Decayed teeth filled with white cement,	50
and warranted useful for mastication,	50
Toothache cured effectually without pain,	50
Teeth extracted with less than half the usual pain	50

Dr. BROWN,

280 1-2 Broadway, 3 doors above Chambers, next to Stewart' & Co.'s new store.

References can be had from several hundred families, also to the medical faculty of the city. nov18

Galvanic Apparatus.

DANIEL DAVIS, Jr., 428 Washington street, Boston, manufactures all the variety of philosophical apparatus, connected with Magnetism, Galvanism, Electro-magnetism, and Magneto Electricity. He has constantly on hand a variety of Electro-magnetic machines, permanent magnets, Galvanic Batteries, &c. For sale on the most liberal terms. nov18

Book for Mechanics.

THE ENGINEER'S AND MECHANIC'S COMPANION.

Comprising Weights, Measures, Mensuration of superfices and solids, tables of squares and cubes,—square and cube roots, circumference, and areas of circles, the mechanical powers, centres of gravity, gravitation of bodies; strength, weight, and crush of materials; waterwheels; hydrostatics, hydraulics, statics, centres of percussion and giration; friction, heat, tables of weight and metals; pipes, scantling, and interest; steam and the steam engine.

By J. M. SCRIBNER, A. M.

Recently published, and for sale by
HUNTINGTON & SAVAGE,
216 Pearl st., price $1,12 to $1,50.
For sale, also, at this office. jny1

JOHNSON'S

DINING SALOON,

No. 144 FULTON STREET.

(Near Broadway): New York.

BILL OF FARE.

Roast Turkey,	18d	Boiled Ham,	6d
" Goose,	18d	Pork and Beans,	6d
" Chicken,	18d	Veal Pie,	6d
" Duck,	18d	Beef Steak Pie,	6d
" Beef,	6d	Chicken Pie,	12d
" Pork,	6d	Mush and Milk,	6d
" Veal,	6d	Rice and Milk,	6d
" Lamb,	6d	Lamb Pot Pie,	6d
" Pig,	12d	Fried Fish,	6d
Boiled Chicken,	12d	Fried Clams,	6d
" Mutton,	6d	Ham and Eggs,	12d
" Corned Beef,	6d	Chicken Soup,	6d
" Pork,	6d	Beef Soup,	6d
" Fish,	6d	Coffee,	6d

Dessert.

Suet Pudding	6d	Mince Pie,	6d
Indian Pudding,	6d	Apple Pie,	6d
Rice Pudding,	6d	Peach Pie,	6d
Plum Pudding,	6d	Plum Pie,	6d
Bread Pudding,	6d	Pumpkin Pie,	6d
Apple Dumplings,	6d	Custard Pie,	6d

Breakfast and Tea.

Beef Steak,	6d	Hot Corn Bread,	6d
Veal Pie,	6d	Indian Cakes,	6d
Mutton Chops,	6d	Boiled Eggs,	6d
Ham and Eggs,	12d	Fried Eggs,	6d
Fried Tripe,	6d	Toast,	6d
Fried Sausages,	6d	Hot Muffins,	6d
Fried Fish,	6d	Hot Rolls,	6d
Fried Clams,	6d	Tea,	3d
Fried Liver,	6d	Coffee,	3d

LEE & CO.'S

WIRE WINDOW SHADES,
do. FIRE SCREENS,
do. GRATE do.
do. HALL AND OTAER DOORS, &c.

MANUFACTURED to order, in great perfection, of any size or shape, and elegantly painted with any Landscape, Lettering, or other devices or colors required.

These Shades, for which we received the highest premium at the two late Fairs of the American Institute, are unlike all others, in the following particulars:—

They admit all the air and Light into the room.
They admit a full view to the street from the room.
They obstruct the view from the street into the room.
Taey keep out all Mosquitos, Flies, and other insects.
They are very durable, being heavily coated with oil paint.
They are extremely ornamental.

By sending your address, (if in the city,) you will be called upon and every explanation given.

Offices, No. 577 Broadway, opposite Niblo's, and No. 18 Factory street, between Waverly Place and Amos street, N. Y.

*** Manufactured in Sheets for the Southern and Western markets.

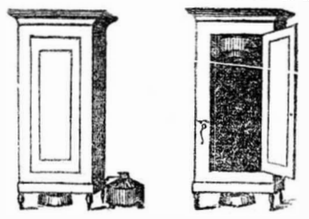
A. G. Bagley's Celebrated Improved

EVER POINTED GOLD PEN.

THIS Pen received the highest premium at the last Fair of the American Institute, and has been pronounced by the first teachers of Penmanship in the country to be infinitely superior to any Gold Pen ever before introduced to the American public. The lasting properties of this Pen are undoubted, owing to the total absence of corrosibility from any of the inks in use, and the peculiar shade of the nibs, (which was first introduced by Bagley, (makes it more pleasant to use, renders it less liable to damage, more easy to repair, and prevents the necessity of the great care that other articles of the kind require.

MANUFACTORY, 189 Broadway, N. Y. nov9.

Lock e's Portable Shower Bath.



THE subscriber has the satisfaction to announce to the public, that he has perfected, and is prepared to furnish at short notice, a portable shower-bath, far superior in utility and convenience of management, to anything of the kind hitherto offered. It constitutes a light and genteel article of furniture for a bed-chamber, and so perfectly constructed, that either a lady or gentleman can at any moment enjoy a copious shower without the id of servants, and withodt having a drop of the water sprinkled on the carpet or floor. And by a slight change in a part of the apparatus, the same may be converted to a steam-bath, either plain or aromatic. These baths are manufactured and may be examined at No. 31 Ann st. JOHN LOCKE.
Dec 4.

VALUABLE AND IMPORTANT PUBLICATIONS.

THE MISSIONARY MEMORIAL,

AND

AMERICAN RELIGIOUS GIFT BOOK.

Beautifully printed, and embellished by a superbly executed Frontispiece, in oil colors; bound in morocco, extra gilt.

Some of the contributors:

Rev. J. W. Alexander, D.D.,	Miss H. F. Gould,
Rev. Erskine Mason, D.D.,	Rev. J. W. Browne,
Rev. W.R. Williams, D.D.,	Rev. Eugenie Kincald,
Rev. Gardiner Spring, D.D.,	Rev. Robt. Baird, D.D.
Rev. J. Dowling,	William W. Laird,
Rev. W. B. Sprague, D.D.	J. G. Whittier,
Mrs. Sigourney,	James Russell Lowell,
Mrs. E. Steele,	Rev. J. O. Choules.

Also an edition without the oil colored frontispiece bound in handsome muslin and gilt.

E. WALKER, Publisher, 114 Fulton st.

Companion to John Bunyan.

The fourth edition of Dr. Cheever's Lectures on Pilgrim's Progress, and the life and times of John Bunyan, illustrated with beautiful steel engravings.

Two editions of this popular work have already been published in England. It is a beautiful volume, and a most desirable companion to Pilgrim's Progress.

Knowledge is Power.

Just published, the *tenth* edition of the "People's Guide to Knowledge:"—this valuable and intellectual volume comprises within itself a

Complete Library of Useful and Entertaining Knowledge,

and is embellished with upwards of 300 appropriate engravings—embracing an extensive range of subjects in literature, science and art.

WONDERS OF THE WORLD.

Just published, the *fourteenth edition* of this truly popular work,—

The Wonders of the World; in Nature, Art and Mind;

a handsome octavo volume of upwards of 500 pages, accompanied with nearly 300 illustrations;—the extensive sale of this work is a sufficient evidence of its intrinsic value. It is a book admirably adapted as a present for young people, as it embraces architecture, mechanics, inventions, ruins, manners and customs of different nations, religious rites and ceremonies, cataracts, volcanoes, curiosities, monuments, trees, birds, beasts, fishes, reptiles, &c. &c., carefully compiled from the best and latest resources.

Romanism vs. the Bible.

DOWLING'S HISTORY OF ROMANISM.

Just published, the *seventh* edition of "Dowling's History of Romanism," with fifty beautiful engravings;—this is a large octavo volume, of nearly 700 pages, in handsome emblematic binding.

The publisher returns his thanks to the Protestant public, for the extensive patronage they have bestowed on this timely production. It is but little more than three months since its first publication, during which short space of time, six editions nave been entirely exhausted.

It is evident that this faithful account of the traditions, vain ceremonies and customs, and the cruel practices of the church of Rome,—not against unbelievers, but inflicted on the very members of Christ's true church,—is destined to reach the fireside of every Protestant and candid and inquiring Romanist throughout our land.

E. WALKER, Publisher, 114 Fulton st.

WREATH OF WILD FLOWERS.

By John Milton Steanes.

This is a handsome duodecimo volume, containing pieces in prose and verse; religious, moral, and entertaining. In handsome morocco binding; and is a beautiful Christmas and New Year's present for young people.

Important National Work.

Just published, a new and enlarged edition of

Presidents' Messages,

in two handsome volumes, 8vo.;—the whole collected from official documents, by E. WILLIAMS, Esq.

CONTENTS:

1. The Addresses and Messages of the Presidents of the United States, from Washington to Polk; with a copious analytical Index to the same, of subjects, names and dates.
2. An account of the Inauguration of each President, and a brief notice of the principal political events of his administration.
3. A Biographical sketch of each President.
4. Declaration of Independence.
5. Articles of Confederation with a brief history of the events and circumstances which led to the union of the States, and the formation of the Constitution.
6. Constitution of the United States, with notes and references.
7. A synopsis of the Constitutions of the several states.
8. Chronological Tables of Historical events in the United States.
9. Tables of Members of the Cabinets of the various administrationsi Ministers to Foreign Countries, and other principal public officers.
10. Statistical tables of Commerce and population;
11. With Portraits of the Presidents, and the Seals of the 26 States.

This important work is indispensable to the American Statesman, and every lover of his country, forming, as it does, an unbroken link of the history of this great Republic.

Wanted, in every town and village in the United States, responsible men to procure subscribers, and engage in the sale of the above works, to whom a very liberal per centage will be allowed.—address E. WALKER, 114 Fulton st.

*** Country newspapers, copying the whole of this advertisement, and giving it six inside insertions, shall be entitled to a copy of any one of the above works,—all who may comply with the above terms, will please send a copy of the paper, each time of insertion, to the publisher, E. WALKER, 114 Fulton st., New York.
Dec. 3tf.

JOHN. H. MILLER

Book, Job, and Music Printer.

No. 41 Wall Street, in the rear,

New York. nov18

ALEX. MACDONALD: PRINTER.

© 1846 SCIENTIFIC AMERICAN, INC.